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The Alignment of the easyCBM Middle School Mathematics CCSS Measures to the Common Core State Standards

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Abstract

Within a response to intervention framework, teachers regularly base important instructional decisions on the results of formative assessments. The validity of these decisions depends, in part, upon the validity of the inference of students' skills drawn from the formative assessment. If formative assessment items do not genuinely measure the skills they purport to measure – that is, if they are misaligned with their content standards – then the resulting inferences may be threatened. Alignment is thus critical, given the potential practical repercussions of misalignment (e.g., students denied needed interventions). In the following technical report, we report on the alignment of a randomly selected sample of roughly half the easyCBM CCSS middle school math items with the Common Core State Standards. Results suggest a high degree of alignment, with 87% of all items aligning to their corresponding standard after controlling for rater effects, and 99.6% of items aligning either to a standard or a requisite skill to the standard.

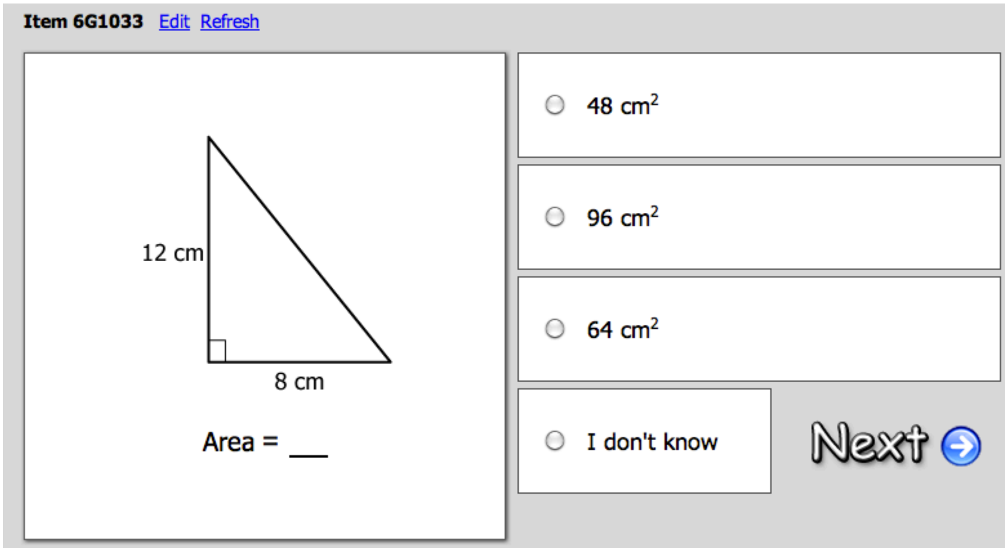
The Alignment of the easyCBM Middle School Mathematics CCSS Measures to the Common Core State Standards

A fully integrated assessment system considers the alignment of both summative and formative assessments with the targeted standards. Although alignment to standards is more generally associated with summative statewide assessments, the alignment of formative assessments is just as critical. For example, statewide assessments are intended to assess students' knowledge of the curriculum standards. The validity of the inferences made from assessments, whether formative or summative, depends, in part, upon the degree to which the items within the test genuinely align with the standards they are intended to measure. Misaligned items have serious consequences for the validity of inferences based on the test score because features of the test (misalignment) may mistakenly be attributed to features of the student (e.g., a skill deficit).

A considerable body of research has been devoted to studying alignment within the realm of large-scale summative assessments, both the methods for doing so and the alignment of the tests themselves (see Webb, 1999). Far less research, however, has been conducted on the alignment of formative assessments – yet the logic used to highlight the importance of alignment of large-scale summative assessments to standards directly applies to formative assessments. If teachers are instructing students on a given standard, and they administer a formative assessment believing that the items within the assessment align with the instructed standard when in reality they are misaligned, the validity of the inferences drawn could be questionable and the resulting decisions inappropriate. For example, the results of a misaligned formative assessment may lead a teacher to believe that students are not making progress in mastering a specific standard. The teacher may then spend valuable instructional time revisiting the standard and addressing it in different ways. Yet if the items in the formative assessment were genuinely aligned with the targeted standard the resulting inferences may have been substantially different (i.e., the majority of students comprehend the standard). In this case, revisiting the standard may prove to be a waste of instructional time and perhaps even detrimental, as the lost time likely leads to inadequate coverage of other domains/standards. Thus, the alignment of formative assessment items is also important. Formative assessments, however, are different from summative assessments in many ways (e.g., domain for sampling, frequency of administration, administration purpose, etc.), which may force a reconceptualization of what alignment should look like. For example, if developers of a formative assessment become hyper-concerned with alignment to avoid the above scenario, they may be tempted to create assessments that mimic the statewide test in form and function and thus lose some of the benefits for which formative assessments are known.

Statewide assessments tend to be quite long and take considerable instructional time to administer. Formative assessments need to be much shorter, as their purpose is to provide teachers with quick information on how a student progressing, which can be used to guide future instructional decisions. By contrast summative assessments are to evaluate the result of instruction at a specific point in time – not to guide teacher decision-making. To ensure brief administration, formative assessments, by design, tend not cover every assessable content standard in each test form. However, they also generally have multiple test forms so teachers can evaluate the growth that students make during the year. Statewide assessments need to cover most standards in one test form and have a balance of representation across all standards (i.e., roughly equal number of items; see Webb, 1999)to ensure students do not get overly penalized, or benefit from, lacking a skill in one domain but not another. This balance of representation is still a concern in formative assessments, but perhaps less so because each form is quite short and the decisions made from individual forms tend to be lower-stakes. Perhaps more important, in formative assessments, is that there is a balance of representation of the content standards across test forms so that over time the student is administered a roughly equal number of items aligned to each standard. A lack of balance across forms (e.g., some standards are largely ignored while others are heavily emphasized) gives more cause for concern than a lack of balance within a form.

Perhaps most importantly, students who are progress-monitored with formative assessments are often a very different group of students than the general education population. Students are often progress-monitored in concert with an intervention designed to increase overall achievement in a given content area. Many of the students may therefore have trouble accessing items on the statewide assessment, as their skills are not as developed. The formative assessment, thus, needs to have more "reach" to better assess the lower-performing students and evaluate the progress they make across the year. To obtain this reach, some of the items may not directly align with a given content standard, but may assess a skill that is a *prerequisite to* the standard. For example, the item displayed below is intended to measure the following Common Core State Standard (CCSS) sixth grade geometry standard 1: *Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into* *triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.*



This item does not directly address the standard because the students do not have to decompose any shapes. However, the item does ask students to find the area of a triangle, which is a requisite skill to finding the area of complex shapes by decomposing them into quadrilaterals and triangles. Items such as this need to be included in formative assessments, despite not aligning perfectly with the grade level standard, to adequately assess the skills and progress of students who are performing below expectations yet are gaining skills they will need, eventually, to successfully address the grade-level standard. Thus, understanding the difference between items that simply do not align with a given standard, versus those that do not align but address a requisite skill of the standard, is an important nuance for consideration in the alignment of formative assessments not necessarily of concern with large-scale summative assessments.

In this technical report, we provide the results of an alignment study with a formative middle school math assessment, the easyCBM CCSS Mathematics assessment.

We examine not only the degree of item alignment, but also the degree to which items not aligned with a given standard assess a requisite skill to the standard. Following a brief overview of the development and purpose of these assessments, we provide our methods and results of the alignment study. We compare and contrast our methods and results with those typical in large-scale summative assessments.

Middle School Math Development and Purpose

For a complete description of the development of the middle school math items rated for alignment in this study, see Anderson, Irvin, Patarapichayatham, Alonzo, & Tindal (2012). Broadly, the items were developed to help teachers inform their classroom instructional decision-making. All items were written to align with the Common Core State Standards (CCSS) in grades 6-8, an overview of which is provided in Table 1. For a full account of the CCSS, see http://www.corestandards.org/the-standards. A team of 23 middle school math teachers helped develop all items, with 18 serving as the primary item writers and the remaining 5 serving as "teacher-leads" who helped facilitate the process and review all items. Items were scaled within and across grades (i.e., horizontally and vertically equated) with a one-parameter logistic Rasch model. The scaling results, along with the current alignment results, help inform the analysis of the overall adequacy of items. The combination of these two sources of evidence was used to form evaluative judgments on an item-by-item basis, about whether individual items should be (a) included in operational test forms, (b) revised to more adequately reflect the intended construct, or (c) eliminated from the item bank.

Methods

Participant Recruitment

Fifteen middle school math teachers were selected from across the United States to participate in the alignment study. An announcement of the study and sign-up form was placed on the University of Oregon's Behavioral Research and Teaching website (http://www.brtprojects.org/). The announcement, shown in Figure 1, detailed the logistics of the study, timeline, and compensation for participation. Over the course of a few months, a large pool of teachers expressed interest in participating. A final panel of 15 teachers was selected based on (a) knowledge of the CCSS, and (b) knowledge of the mathematical content. Table 2 provides a brief description of each reviewer chosen to participate in the study. Teachers were compensated $300 for their participation, based on an estimated 12 hours of work required to complete the alignment study. This 12 hours of work included a webinar training session. The PowerPoint presentation from this webinar is displayed in Appendix A.

Each teacher was asked to judge the alignment of 270 items through a web-based tool: the Distributed Item Review (DIR). The DIR is designed to distribute and present test items to experts across a broad geographic area in a user-friendly manner, so items can be reviewed for important dimensions of quality, including bias, sensitivity, and in this case, alignment to standards. For this alignment study, math items were paired and displayed with intended standards, and math teachers were asked to gauge standard alignment based on a 4-point scale:

0 = no alignment,

1 = vague alignment,

2 = somewhat aligned,

3 = directly aligned.

The four-point scale allowed raters to indicate the degree to which an item was or was not aligned to a given standard. These ratings were also collapsed into dichotomous *aligned* (2 or 3) or *not aligned* (0 or 1) categories. Reviewers were trained on this scale and the data collapsing approach was explained. The four point scale forced reviewers to rate an item as either being aligned or not (i.e., there was no "middle ground"). If a reviewer determined that an item was not aligned to the intended standard, he or she was asked to indicate whether the item addressed a requisite skill to attaining mastery on the given standard, as discussed above. Alignment results were stored and backed up on two secure servers and exported in a single file. All items planned for alignment were split into sets of 90, with 5 sets at each grade. Each teacher was then asked to rate the alignment of all items in three item sets. Teachers were stratified across items sets so there were always at least 3 raters per item set. Further, all raters linked across forms so that inter-rater reliability could be calculated across all raters. The teacher sampling design across item sets is displayed in Table 3.

Item Selection

The full Middle School Math item bank includes 900 items in each of grades 6-8, totaling 2,700 unique items. The CCSS include 5 domains in each of grades 6-8, as displayed in Table 1. Within each of these domains are numerous standards. During item development, all commissioned items were divided evenly first by the domain (180 per domain) then by standard. The specific number of items written to each standard varied by domain, given that the number of standards within each domain varied. However, the 180 items written to each domain were divided evenly among the standards within the domain.

Approximately 50% of the total item-bank was selected for the alignment review. A matrix-sampling plan was used to stratify all selected items by CCSS and item writers. Each CCSS was listed as a row in the matrix with the item writers listed as columns. The values within each cell represented the number of items written to a specific standard by the given item writer. Values within each cell of the matrix were then multiplied by .5, which resulted in the number of items to include in the alignment study by each standard for each item writer. When the number within each cell did not divide by .5 evenly, it was rounded. The rounded totals were distributed roughly evenly across item writers and standards. Tables 4-9 display both the original distribution matrix and the sampling plan matrix.

Once the appropriate number of items to be sampled from each standard and each item writer was determined, items were randomly selected for inclusion. In other words, a larger matrix similar to that displayed in Tables 4-9 was created that included the item IDs of items written by specific item writers to specific standards, rather than simply the overall number of items written. Each item was then assigned and sorted by a random number. The first *n* items within a specific standard written by a specific item writer were then selected, as outlined by Tables 5, 7, and 9. Table 10 displays a brief portion of the larger matrix used for item selection.

From the total sample chosen from each standard (i.e., the “Total” column on Tables 5, 7, and 9), items were randomly assigned to review sets 1-5 shown in Table 3. All items from within a standard were again assigned a random number and sorted in ascending order. These items were then assigned across items sets. That is, if there were 12 items in the final sample to be reviewed, two of each of these items would be randomly assigned to review sets 1-5, with the remaining two items randomly assigned to review sets 1 and 2. This resulted in a roughly even distribution of standards across item sets that were randomly selected from the larger pool of items, and randomly assigned to each item set.

Analysis

The analysis of data obtained from experts making qualitative judgments about the alignment of items poses certain challenges. Contrary to data obtained from raters judging, say, a writing exam, we would not expect ratings to match perfectly. Raters judging the alignment of items are being asked to exercise their professional judgment to reach a decision rather than to follow a pre-defined rubric. Thus, the variance between raters is assumed to be greater. However, the consistency of ratings within each rater is of substantial importance given that erratic ratings could threaten the validity of the results. The leniency/severity of the judge also becomes a substantial area of concern because certain judges may systematically rate items as more or less aligned. While the leniency/severity concern is, of course, present in rubric-type judgments as well, it is of more concern in an expert judgment situation simply because the raters are allowed more latitude in their ratings, and the discrepancies between raters may subsequently be larger.

Variances associated with individual raters can be statistically modeled and controlled for through a many-facets Rasch model (MFRM). An adjusted alignment rating can then be computed that provides an estimate of what the rating on the item would have been had it been rated by a judge with the estimated average leniency/severity. The MFRM is typically applied when the object of measurement is people, and there are some combinatorial effects of an item and one of numerous facets (i.e., a rater) that determine the individual's score. Within an alignment study, however, the items themselves are the object of measurement. But because there are still facets (i.e., the item and the judge) that determine the ultimate alignment rating of the item, the MFRM can be directly applied.

The MFRM is an extension of the basic Rasch model developed by Linacre (1989) and can be applied to any of the family of Rasch models. When data follow an ordinal rating scale, the MFRM can extend either Masters' (1982) partial credit model – when each item follows its own unique scale – or Andrich's (1978) rating scale model, when item thresholds can be assumed equivalent across items. In the current study, all items were rated on the same 4-point scale and there is little theoretical reason to presume that thresholds would vary dramatically across items. Given the large number of items in the analysis (1,345), estimation of the partial credit model would also require a substantially greater number of estimated parameters because thresholds would need to be estimated for each item individually. Further, for many items there were unobserved categories (e.g., all raters rated an item as 2 or 3, leading to empty 0 and 1 categories). These empty categories can degrade estimation within the partial credit model, but the rating scale model is robust against empty categories (Linacre, 2000). We thus decided to apply the MFRM extension of Andrich's rating scale model, defined as

$$ln\left(\frac{P_{nijk}}{P_{nij(k-1)}}\right) = B_n - D_i - C_j - F_k \qquad (1)$$

where P_{nijk} is the probability that subject n is rated into category k on latent trait i by rater j, B_n is the estimated location on the latent trait for subject n, D_i is the difficulty of item i, C_j is the severity of rater j, and F_k is the Rasch Andrich Threshold for the $k-1$ category.

When applying the model in Equation 1 to alignment data, where the object of measurement is actually the test item and not individuals, the terms needs to be slightly redefined, although estimation is equivalent. For example, B_n, rather than representing an individual's level on the latent trait, instead represents the *item's* level on the latent trait – which in this context is "alignment". The D_i term represents the raters' overall willingness to endorse a specific item as aligned (i.e., the "difficulty" of endorsing an item as aligned). The C_j and F_k terms are identical regardless of the object of measurement, but it should be noted that F_k is estimated once and is fixed across all items, which distinguishes the rating scale model from the partial credit model.

Two MFRM analyses were conducted to examine the alignment of the Middle School Math items – a primary analysis and a subsequent exploratory analysis. The primary analysis included only rater severity as a facet in a fully crossed design. This design was used to control for rater severity and obtain more accurate representations of the alignment of each item. The second analysis included two additional facets: the domain and grade-level of the corresponding item. The purpose of this second analysis was to examine whether ratings differed substantially by each facet. Unfortunately, because the domains were not consistent across grades, and not all raters rated items in each grade, the analysis became nested rather than crossed. Thus, results of the second analysis should be interpreted with substantial caution. This second analysis was only conducted to provide preliminary evidence of any potential effects of item type or grade. All MFRM analyses were conducted with the FACETS software, version 3.70 (Linacre, 2012).

Following the MFRM analyses, all items were tabulated into *aligned* and *not aligned* categories based on the adjusted MFRM rating. That is, any items with an adjusted rating of less that 2.0 were deemed *not aligned* while any above were deemed *aligned*. The items rated *not aligned* were then evaluated with respect to the requisite skill ratings to determine which items were truly misaligned as opposed to those that were aligned to a requisite skill of the standard, though not the standard itself. To obtain an overall judgment of whether or not the item addressed a requisite skill, we used a consensus approach, by which at least two of the three raters had to judge the item as either (a) aligning with the standard or (b) addressing a requisite skill.

Results

The raw observed results are displayed by item and standard in Appendix C. It is important to note that the particular rater judging the item was intentionally masked. For example, for any one item, ratings appearing in the r1Rtg column may have come from any of the 15 raters participating in the study. For each item there were 6 total ratings – 3 alignment ratings (r1Rtg, r2Rtg, and r3Rtg) and 3 requisite skill ratings (r1Req, r2Req, and r3Req). Note that the requisite skill ratings were only provided when the item was rated as unaligned with the standard (0 or 1).

Primary Analysis Results

The purpose of the primary analysis was to examine the degree to which the formative middle school math items aligned with the CCSS while controlling for rater effects. The full results are displayed by item in Appendix B. For each item, a total score (sum of ratings) is reported, followed by the observed average of the ratings and an adjusted average. The adjusted average was used in all cases to determine whether an item did or did not align, with values below 2.0 deemed not aligned. Following the adjusted average is the endorsability statistic, which provides the ease with which raters endorsed the item as aligned with the standard, reported on the logit scale. Lower endorsability values indicate easier-to-endorse items. After the endorsability statistic is the estimated standard error of the ratings for the items, followed by a series of item-level fit statistics – the unstandardized and standardized infit and outfit. Overall, 1,180/1,345, or 87.73% of all items had an adjusted MFRM rating above 2.0, suggesting they were aligned to their corresponding standard. Of the remaining 165 items that were rated as not aligned, 160/165, or 97.00%, were rated as addressing a requisite skill to the standard by consensus.

A summary of rater effects is displayed in Table 11. Of particular note is the severity statistic, which is reported on the logit scale and is, of course, the inverse of the leniency of the rater. As can be seen, the severity of the raters differed substantially. An examination of the average rating column indicates that the most severe Rater 3 scored items, on average, nearly a full category below the most lenient Rater 11. These differences in rater severity can be seen visually in Figure 2. The left-most column of the figure displays logit values from the analysis, mapped vertically. To the right of these values are the distribution of rater severities, mapped against the logit values. To the right of the rater labels are the distribution of items, mapped against the same logit scale. Finally, the furthest right column of the figure displays the raw rating scale, ranging from 0-3. The figure thus displays how the distribution of rater severities compared to the distribution of item endorsabilities on a common scale.

The fit statistics in Table 1 are also important given that they provide an indication of the consistency with which raters made decisions. That is, given the severity of the rater, as determined by his or her scoring of all other items, and the endorsability of the item, does he or she consistently rate items as would be expected? The outfit statistic is perhaps most useful for this purpose, with values above 1.0 indicating underfit to the model (i.e., unexpected ratings) and values below 1.0 indicating overfit to the model (i.e., overly consistent ratings, as in a rater who judges all items to be perfectly aligned). These fit statistics provide an indication of the intra-rater reliability. It is important to note that 1.0 is the “ideal” fit to the model, but mild deviations may occur with little cause for concern. For example Myford and Wolfe (2000) were concerned only with raters underfitting the model expectations, and used cutoff criterion to identify inconsistent raters as any with a mean square outfit greater than or equal to 1.5. In our study, we found that all raters fit the model expectations quite well, with mean square outfit statistics ranging from 0.76 to 1.16.

Exploratory Analysis Results

Following the primary analysis, an exploratory analysis was conducted to examine whether raters differed substantially in their ratings by the domain or the grade level for which the item was written. As previously mentioned, this resulted in the analysis being nested rather than crossed and thus the results should be interpreted with caution. However, results do provide some preliminary indication of potential interaction effects. Overall, only 5% of the total variance was attributable to the domain of the item, while only 0.25% of the variance was attributable to the grade-level for which the item was written. Tables 12 and 13 display a summary of the item domain and grade-level effects, respectively. As can be seen, minimal differences existed between ratings on items in different domains or grades. The overall fit to the model was also similar across domains and across grade-levels.

Discussion

The results of this study indicate that, overall, the alignment of the easyCBM Mathematics CCSS assessment for middle school with the Common Core State Standards is quite high. While controlling for rater bias, 87% of items were rated as aligned to the corresponding standard, while 99.6% aligned to either a standard or a requisite skill to the standard. The results of the exploratory analysis suggested that raters did not vary substantially in their ratings by the domain or the grade level for which the item was written. Use of the MFRM in this study resulted in more conservative estimates of alignment than traditional alternatives. For example, while the MFRM estimated 165 items to be not aligned with their corresponding standards, use of an unadjusted average would have resulted in only 133 items rated as not aligned. Similarly, if a consensus approach had been used, only 100 items would have not met the alignment criteria. However, inspection on an item-by-item basis reveals that, while the MFRM adjusted many items ratings from *aligned* to *not aligned*, there were also items that were adjusted from *not aligned* to *aligned*. This shifting of alignment was due primarily to rater severity. Modeling the rater variance as an additional parameter in the model likely produced more accurate results overall, as threats of systematic rater variance are minimized.

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Table 1

Common Core State Standards

Abbreviation	Domain Name	Grades Represented	# of Standards
RP	Ratios and Proportions	6-7	G6: 3 G7: 3
NS	Number Systems	6-8	G6: 8 G7: 3 G8: 2
EE	Expressions and Equations	6-8	G6: 9 G7: 4 G8: 8
G	Geometry	6-8	G6: 4 G7: 6 G8: 9
SP	Statistics and Probability	6-8	G6: 5 G7: 8 G8: 4
F	Functions	8	G8: 5

Table 2

Teacher-Participant Descriptions

Alignment Judge	Qualifications
A	Bachelors in math, Masters in Curriculum Instruction Taught on, above, and below grade-level math in 7th and 8th grade. Facilitated online professional development for teachers in math. 5 years experience as district math coach
B	Bachelors in Psychology and Secondary Ed., Masters in Education Attended Common CCSS trainings & facilitated district implementation Taught Middle School math for 11 years District math coach
C	Bachelors in Elementary Education, Masters in Special Education Taught 6th grade math for 2 years and 8th grade math for 6 years Experience with students with diverse learning needs (in SPED) Attended numerous workshops on CCSS
D	Certifications in K-8 Elementary Ed, K-12 Special Education Instructional math coach (6-8), former 7th grade math intervention teacher Experience with students with diverse needs (in SPED & demographically) Extensive experience with CCSS, helps 6-8 teachers implement
E	Masters degree in curriculum and instruction Instructional math coach (5-8), former Middle school math teacher (10 yrs) Experience writing district common assessments Former math item writer for *National Training Network*
F	B.S. - Elementary Education, B.S - Secondary Science, M.S. - Science Ed 5 years teaching middle school math Experience with diverse student populations academically and economically Familiarity with CCS (but not extensive experience)
G	Bachelors in Business/Marketing, Masters in Math & Education Middle School Math chair for 9 years Experience with diverse student populations Worked with teachers to compare CCS with Connecticut math standards
H	Bachelors in Elementary and Secondary Mathematics Elementary Math Specialist – provides PD for teachers Over 20 years teaching math experience, 7 years of PD experience Working to place CCSS math framework for district (5-8)

Table 2 (continued)

Teacher-Participant Descriptions

Alignment Judge	Qualifications
I	Bachelors in business, Masters in Education Former community college math teacher District math coach, former math teacher in 8th and 9th grade Has run workshops on implementing CCSS
J	BA w/concentrations in early child development, SPED, & Elementary Ed Instructs students w/IEPs as well as Gen Ed students Experience with academically & culturally diverse students Very familiar w/CCSS – attended district trainings
K	Certified math teacher (1-8), and Title 1 middle school math teacher District math specialist Member of Massachusetts Dept. Ed. Assessment Development committee Gaining familiarity with CCSS
L	Bachelors in Elementary Education, Masters in Reading & Mathematics 6-8 math intervention teacher (both for struggling and accelerated students) 8 years teaching experience at all middle school levels Has been teaching with curriculum aligned w/CCSS
M	Bachelors in SPED, Masters in Educational Leadership Middle school math teacher, working with students w/significant disabilities Experience with diverse student populations Experience implementing CCSS
N	B.S. in Mathematics, Masters in Curriculum & Instruction Experience instructing students on, above, & below level (intervention) Facilitated online Math PD Familiar with CCSS and shifts in focus from Ohio state standards
O	Multiple subject credential, w/supplemental authorization in Math Middle School Math intervention teacher Experience with diverse student population, both culturally & economically Attended multiple webinars describing CCSS

Table 3

Teacher Sampling Plan

Grade 6					Grade 7					Grade 8				
Set 1	Set 2	Set 3	Set 4	Set 5	Set 1	Set 2	Set 3	Set 4	Set 5	Set 1	Set 2	Set 3	Set 4	Set 5
a	a													a
	b	b	b											
			c	c	c									
					d	d	d							
							e	e	e					
									f	f	f			
											g	g	g	
h													h	h
i	i	i												
		j	j	j										
				k	k	k								
						l	l	l						
								m	m	m				
										n	n	n		
												o	o	o

Note. Each letter, a – o, represents an individual teacher. Each teacher is further represented by one and only one row. The table displays the overlap of raters across items so that each item is rated by at least 3 teachers, while the raters themselves link across item sets, allowing for the computation of inter-rater reliability across all raters. Each set contained 90 items.

Table 4

Original Item Distributions: Grade 6

CCS	Item Writer						
Standard	a	b	c	d	e	f	Total
RP1	10	10	10	10	10	10	60
RP2	10	10	10	10	10	10	60
RP3	10	10	10	10	10	10	60
NS1	4	4	4	4	4	4	24
NS2	4	4	4	4	3	3	22
NS3	4	4	4	4	3	3	22
NS4	4	4	4	4	4	4	24
NS5	4	4	4	4	4	4	24
NS6	4	4	4	4	4	4	24
NS7	3	3	3	3	4	4	20
NS8	3	3	3	3	4	4	20
EE1	4	4	4	4	4	4	24
EE2	4	4	4	4	4	4	24
EE3	4	4	4	4	4	4	24
EE4	3	3	3	3	3	3	18
EE5	3	3	3	3	3	3	18
EE6	3	3	3	3	3	3	18
EE7	3	3	3	3	3	3	18
EE8	3	3	3	3	3	3	18
EE9	3	3	3	3	3	3	18
G1	8	8	8	7	6	6	43
G2	8	8	8	7	6	6	43
G3	7	7	7	8	9	9	47
G4	7	7	7	8	9	9	47
SP1	6	6	6	6	6	6	36
SP2	6	6	6	6	6	6	36
SP3	6	6	6	6	6	6	36
SP4	6	6	6	6	6	6	36
SP5	6	6	6	6	6	6	36
Total							900

Note. CCS – Common Core State Standard. Rows indicate a given domain and standard number (i.e., RP1 = Ratios and Proportions domain, standard 1, see Table 1 for full description of abbreviations).

Table 5

50% Item Sampling Plan: Grade 6

CCS Standard	Item Writer a	b	c	d	e	f	Total
RP1	5	5	5	5	5	5	30
RP2	5	5	5	5	5	5	30
RP3	5	5	5	5	5	5	30
NS1	2	2	2	2	2	2	12
NS2	2	2	2	2	2	1	11
NS3	2	2	2	2	1	2	11
NS4	2	2	2	2	2	2	12
NS5	2	2	2	2	2	2	12
NS6	2	2	2	2	2	2	12
NS7	1	2	1	2	2	2	10
NS8	2	1	2	1	2	2	10
EE1	2	2	2	2	2	2	12
EE2	2	2	2	2	2	2	12
EE3	2	2	2	2	2	2	12
EE4	1	2	1	2	1	2	9
EE5	2	1	2	1	2	1	9
EE6	1	2	1	2	1	2	9
EE7	2	1	2	1	2	1	9
EE8	1	2	1	2	1	2	9
EE9	2	1	2	1	2	1	9
G1	4	3	4	3	4	4	22
G2	4	3	4	3	4	5	23
G3	3	4	3	4	4	4	22
G4	3	4	3	4	5	4	23
SP1	3	3	3	3	3	3	18
SP2	3	3	3	3	3	3	18
SP3	3	3	3	3	3	3	18
SP4	3	3	3	3	3	3	18
SP5	3	3	3	3	3	3	18
Total							450

Note. CCS – Common Core State Standard. Rows indicate a given domain and standard number (i.e., RP1 = Ratios and Proportions domain, standard 1, see Table 1 for full description of abbreviations).

Table 6

Original Item Distributions: Grade 7

CCS	Item Writer						
Standard	a	b	c	d	e	f	Total
RP1	10	10	10	10	10	10	60
RP2	10	10	10	10	10	10	60
RP3	10	10	10	10	10	10	60
NS1	10	10	10	10	10	10	60
NS2	10	10	10	10	10	10	60
NS3	10	10	10	10	10	10	60
EE1	8	8	8	7	7	7	45
EE2	8	8	8	7	7	7	45
EE3	7	7	7	8	8	8	45
EE4	7	7	7	8	8	8	45
G1	5	5	5	5	5	5	30
G2	5	5	5	5	5	5	30
G3	5	5	5	5	5	5	30
G4	5	5	5	5	5	5	30
G5	5	5	5	5	5	5	30
G6	5	5	5	5	5	5	30
SP1	3	3	3	4	4	4	21
SP2	3	3	3	4	4	4	21
SP3	4	4	4	3	3	3	21
SP4	4	4	4	3	3	3	21
SP5	4	4	4	4	4	4	24
SP6	4	4	4	4	4	4	24
SP7	4	4	4	4	4	4	24
SP8	4	4	4	4	4	4	24
Total							900

Note. CCS – Common Core State Standard. Rows indicate a given domain and standard number (i.e., RP1 = Ratios and Proportions domain, standard 1, see Table 1 for full description of abbreviations).

Table 7

50% Item Sampling Plan: Grade 7

CCS	Item Writer						
Standard	a	b	c	d	e	f	Total
RP1	5	5	5	5	5	5	30
RP2	5	5	5	5	5	5	30
RP3	5	5	5	5	5	5	30
NS1	5	5	5	5	5	5	30
NS2	5	5	5	5	5	5	30
NS3	5	5	5	5	5	5	30
EE1	4	4	4	4	3	4	23
EE2	4	4	4	3	4	3	22
EE3	4	3	4	4	4	4	23
EE4	3	4	3	4	4	4	22
G1	2	3	2	3	2	3	15
G2	3	2	3	2	3	2	15
G3	2	3	2	3	2	3	15
G4	3	2	3	2	3	2	15
G5	2	3	2	3	2	3	15
G6	3	2	3	2	3	2	15
SP1	1	2	1	2	2	2	10
SP2	2	1	2	2	2	2	11
SP3	2	2	2	1	2	1	10
SP4	2	2	2	2	1	2	11
SP5	2	2	2	2	2	2	12
SP6	2	2	2	2	2	2	12
SP7	2	2	2	2	2	2	12
SP8	2	2	2	2	2	2	12
Total							450

Note. CCS – Common Core State Standard. Rows indicate a given domain and standard number (i.e., RP1 = Ratios and Proportions domain, standard 1, see Table 1 for full description of abbreviations).

Table 8

Original Item Distributions: Grade 8

CCS Standard	Item Writer a	b	c	d	e	f	Total
NS1	15	15	15	15	15	15	90
NS2	15	15	15	15	15	15	90
EE1	4	4	4	4	4	4	24
EE2	4	4	4	4	4	4	24
EE3	4	4	4	4	4	4	24
EE4	4	4	4	4	4	4	24
EE5	4	4	4	4	4	4	24
EE6	4	4	4	4	4	4	24
EE7	3	3	3	3	3	3	18
EE8	3	3	3	3	3	3	18
F1	6	6	6	6	6	6	36
F2	6	6	6	6	6	6	36
F3	6	6	6	6	6	6	36
F4	6	6	6	6	6	6	36
F5	6	6	6	6	6	6	36
G1	4	4	4	4	4	4	24
G2	4	4	4	4	4	4	24
G3	4	4	4	4	3	3	22
G4	3	3	3	3	3	3	18
G5	3	3	3	3	3	3	18
G6	3	3	3	3	3	3	18
G7	3	3	3	3	3	3	18
G8	3	3	3	3	3	3	18
G9	3	3	3	3	4	4	20
SP1	8	8	8	7	7	7	45
SP2	8	8	8	7	7	7	45
SP3	7	7	7	8	8	8	45
SP4	7	7	7	8	8	8	45
Total							900

Note. CCS – Common Core State Standard. Rows indicate a given domain and standard number (i.e., NS1 = Number Systems domain, standard 1, see Table 1 for full description of abbreviations).

Table 9

50% Item Sampling Plan: Grade 8

CCS Standard	Item Writer a	b	c	d	E	f	Total
NS1	7	8	7	8	7	8	45
NS2	8	7	8	7	8	7	45
EE1	2	2	2	2	2	2	12
EE2	2	2	2	2	2	2	12
EE3	2	2	2	2	2	2	12
EE4	2	2	2	2	2	2	12
EE5	2	2	2	2	2	2	12
EE6	2	2	2	2	2	2	12
EE7	2	1	2	1	2	1	9
EE8	1	2	1	2	1	2	9
F1	3	3	3	3	3	3	18
F2	3	3	3	3	3	3	18
F3	3	3	3	3	3	3	18
F4	3	3	3	3	3	3	18
F5	3	3	3	3	3	3	18
G1	2	2	2	2	2	2	12
G2	2	2	2	2	2	2	12
G3	2	2	2	2	2	1	11
G4	1	2	1	2	1	2	9
G5	2	1	2	1	2	1	9
G6	1	2	1	2	1	2	9
G7	2	1	2	1	2	1	9
G8	1	2	1	2	1	2	9
G9	2	1	2	1	2	2	10
SP1	4	4	4	3	4	3	22
SP2	4	4	4	4	3	4	23
SP3	3	4	4	4	4	4	23
SP4	4	3	3	4	4	4	22
Total							450

Note. CCS – Common Core State Standard. Rows indicate a given domain and standard number (i.e., NS1 = Number Systems domain, standard 1, see Table 1 for full description of abbreviations).

Table 10

Example of Item Selection Strategy

Item Set 1			**Item Set 6**		~	**Item Set 1**		~	**Item Set 6**	
Random #	**Item ID**		**Random #**	**Item ID**	~	**Random #**	**Item ID**	~	**Random #**	**Item ID**
7RP1			**7RP**			**RP1**			**RP1**	
1568	180		7506	7RP1058	~	1568	7RP1006	~	180	7RP1058
1659	408		1568	7RP1057	~	1659	7RP1008	~	408	7RP1057
2092	1211		1659	7RP1054	~	2092	7RP1002	~	1211	7RP1054
3344	1861		2092	7RP1060	~	3344	7RP1009	~	1861	7RP1060
4639	3125		3344	7RP1052	~	4639	7RP1004	~	3125	7RP1052
5580	4565		4639	7RP1051		~~~~	~~~~	~	~~~~	~~~~
7343	6037		5580	7RP1055		**NS1**			**NS1**	
7991	6602		7343	7RP1056		1070	7NS1010		308	7NS1057
8667	8399		7991	7RP1053		1274	7NS1007		2387	7NS1058
9466	9597		8667	7RP1059		2494	7NS1004		2676	7NS1055
7NS1			**7NS1**			2589	7NS1008		3544	7NS1051
1070	7NS1010		308	7NS1057		2905	7NS1002		4140	7NS1059
1274	7NS1007		2387	7NS1058						
2494	7NS1004		2676	7NS1055						
2589	7NS1008		3544	7NS1051						
2905	7NS1002		4140	7NS1059						
2942	7NS1009		5203	7NS1056						
3493	7NS1001		5895	7NS1054						
6974	7NS1005		6454	7NS1052						
7406	7NS1006		6868	7NS1060						
8650	7NS1003		7384	7NS1053						

Note. Item sets shown on the left show of the table show the random assignment of ALL items in the item bank. Item sets shown on the right show only those items chosen for inclusion in the alignment study. Table displays the random selection process.

Table 11

Summary of Rater Effects

						Fit Statistics			
Rater	Score Tot	Count	Avg. Rtg	Severity	S.E.	Infit	Infit Z	Outfit	Outfit Z
1	728	268	2.52	-0.01	0.14	1.25	1.83	0.97	-0.15
2	683	270	2.19	-0.07	0.12	0.96	-0.34	1.04	0.34
3	537	269	1.71	1.78	0.09	0.75	-3.2	0.76	-2.98
4	690	268	2.3	0.64	0.11	0.91	-0.88	0.87	-1.21
5	713	270	2.36	-0.44	0.13	1.2	1.57	1.07	0.56
6	688	269	2.23	-0.49	0.12	1.28	2.38	1.16	1.31
7	660	269	2.06	-0.23	0.11	1.19	1.84	1.16	1.48
8	638	270	1.79	0.66	0.12	0.99	-0.02	0.96	-0.35
9	717	269	2.44	-0.54	0.13	0.98	-0.16	0.92	-0.48
10	736	269	2.53	-0.8	0.15	0.78	-1.71	0.92	-0.41
11	750	269	2.68	-0.92	0.15	0.87	-0.84	0.99	0.04
12	586	269	1.88	1.49	0.1	0.76	-2.97	0.8	-2.36
13	728	269	2.47	-1.00	0.14	1.34	2.43	1.12	0.82
14	746	268	2.67	-0.55	0.15	1.22	1.49	0.89	-0.55
15	692	269	2.28	0.45	0.12	0.97	-0.21	0.91	-0.79

Note. Severity reported on logit scale, with higher values indicating a more severe rater.

Table 12
Summary of Item Domain Effects

						Fit Statistics			
Item Domain	Count	Avg. Rtg	Adj. Avg.	Endorsability	S.E.	Infit	Infit Z	Outfit	Outfit Z
Expressions & Equations	807	2.28	2.38	0.03	0.08	1.06	0.88	0.98	-0.14
Geometry	807	2.28	2.41	-0.03	0.07	0.95	-0.85	0.93	-0.94
Number Systems	807	2.29	2.44	-0.09	0.07	0.98	-0.27	0.88	-1.58
Ratios & Proportions	540	2.29	2.30	0.19	0.09	1.00	0.06	0.91	-0.90
Statistics & Probability	804	2.21	2.39	0.01	0.07	1.07	1.22	1.06	0.77
Functions	270	2.24	2.45	-0.11	0.12	0.88	-1.05	1.01	0.15

Note. Endorsability reported on logit scale, with higher values indicating “harder” endorsability.

Table 13
Summary of Grade-Level Effects

						Fit Statistics			
Item grade-level	Count	Avg. Rtg	Adj. Avg.	Endorsability	S.E.	Infit	Infit Z	Outfit	Outfit Z
6	1347	2.22	2.25	0.27	0.06	1.12	2.23	1.07	1.23
7	1344	2.36	2.42	-0.05	0.05	1.12	2.24	1.00	-0.01
8	1344	2.22	2.49	-0.22	0.05	0.80	-4.42	0.84	-2.49

Note. Endorsability reported on logit scale, with higher values indicating “harder” endorsability.

Figure 1

Alignment Participant Recruitment Announcement

BRT
behavioral research & teaching

About Us Publications

Current Research Projects

Featured Web Project:
cbmtraining
Register and login for free access to training on interventions in reading and mathematics as well as middle school concept-based instruction.
http://slds.ziptrain.com

8. Middle School Math Measures Alignment

Date: April 2012

Purpose: In 2010, the national Common Core Standards for Math were released to provide a unified set of expectations for developing mathematical skills across grade levels. The purpose of this study is to determine the degree to which middle school mathematics measures align with the Common Core Standards. We are looking for middle school mathematics teachers to examine items that were written to align with specific common core standards across grades 6-8. Study results can help strengthen alignment, provide a basis for evaluating math domain representativeness among test items and test forms, and enhance the validity of data score interpretations (e.g., instructional decisions made in response to student performance).

Teacher-student samples: We need approximately 13 teachers to judge the alignment of 300 middle school math items with the Common Core standards.

Description of Logistics: April 2012
1) Teachers are trained on alignment ratings via a webinar
2) Teachers individually rate the alignment of a sample of items through an online tool
Benefits or payments: We estimate that it will take teachers approximately 12 hours to fully participate in this study. We will compensate teachers for their time at a rate of $25 per hour for a sum of $300 – to be paid after completion of item ratings. The 12 hour time allotment also includes a mandatory 90 minute webinar training.

Training webinar: TBA

Sign-Up

Figure 2

Item-Rater Map

```
+-----------------------------------------+
|Severity | Rater          Item      |Scale|
|-----+----------------+------------+-----|
|   4 +                + *********. + (3) |
|     |                |            |     |
|     |                | .          |     |
|     |                |            |     |
|     |                |            |     |
|     |                |            |     |
|   3 +                + .          +     |
|     |                | .          |     |
|     |                | *.         |     |
|     |                | .          |     |
|     |                | .          |     |
|     |                | .          |     |
|   2 +                + **.        + --- |
|     | 3              | *.         |     |
|     |                | .          |     |
|     | 12             | .          |     |
|     |                | .          |     |
|     |                | .          |     |
|   1 +                + .          +  2  |
|     |                | .          |     |
|     | 4   8          | .          |     |
|     | 15             | .          |     |
|     |                | .          |     |
|     |                | .          | --- |
*   0 * 1   2          * .          *     *
|     | 7              | .          |     |
|     |                | .          |     |
|     | 14  5   6   9  | .          |     |
|     |                | .          |     |
|     | 10  11         | .          |  1  |
|  -1 + 13             + .          +     |
|     |                | .          |     |
|     |                | .          |     |
|     |                |            |     |
|     |                |            |     |
|     |                | .          |     |
|  -2 +                + .          + --- |
|     |                | .          |     |
|     |                |            |     |
|     |                |            |     |
|     |                | .          |     |
|     |                |            |     |
|  -3 +                +            +     |
|     |                | .          |     |
|     |                | .          |     |
|     |                |            |     |
|     |                |            |     |
|     |                |            |     |
|  -4 +                +            + (0) |
|-----+----------------+------------+-----|
|Severity | Rater          | * = 53     |Scale|
+-----------------------------------------+
```

Appendix A

BRT behavioral research & teaching

easyCBM Middle School Math

Common Core State Standards Alignment Study

Big Picture

- Formative assessments are designed to inform teachers classroom decision-making.
- If the test items are not aligned with the content standards the teacher is instructing to, the results may lead to inaccurate decisions.
- **Alignment** – important for both summative *and* formative assessments, but needs to be re-conceptualized for formative assessments

Goals

- Clearly understand:
  - Development and purpose of the easyCBM middle school math items
  - Why alignment is important, and how it differs from summative assessment alignment
  - How you will rate items (web-based tool: Distributed Item Review)
  - Your role --- please ask questions if you have them!

Purpose of easyCBM

Provide a tool for teachers and schools operating within a response to intervention (RTI) framework

- Benchmark screeners
  - Administered 3 times a year to all students
  - Used to screen for whether students are academically "at-risk"
- Progress-monitoring measures
  - administered to students identified as "at-risk" in concordance with an intervention
  - Used to monitor progress and evaluate the effect of the intervention

RTI: A Complex system

A lot of moving parts have to come together to help teachers make appropriate decisions.

Reliability & Validity

- Scores on tests has to be sufficiently reproducible (i.e., a student shouldn't get a different score each time he or she takes it)
- Tests can't be biased for or against groups of students
- Alternate test forms have to be comparable in difficulty and content

And, why we're all here…

- Tests have to be **aligned** with the **instructional standards** and measure what they say they are measuring.
- We need your expert review to help us in developing these new items and ensure that they are aligned with the common core standards

Test validity

No test is "valid". Rather:

It is the inferences and decisions made from a test score that are or are not valid (see Messick, 1995).

To help teachers make valid decisions, it is our responsibility as a test developer to ensure that the test scores are meaningful, and are an adequate representation of the targeted skill

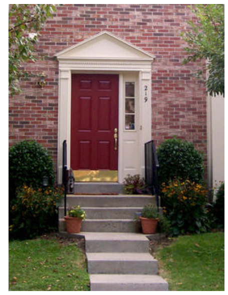
Background: Developmental Process

900 items developed in each of grades 6-8
Random sample of 450 items from each grade to be reviewed

- All items developed while adhering to principals of **Universal Design for Assessment**
- Items intended to be **accessible** to a **wide range of students** (i.e., low achieving students through high achieving students).

Universal Design

How should we design a building so the widest range of populations possible can access it?



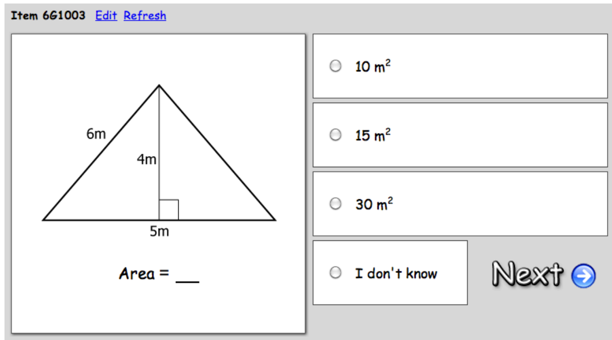
Universal Design for Assessment

- Considers **all** characteristics of test-takers.
- Precisely defined constructs.
- Accessible, non-biased items.
- Items amendable to accommodations.
- Simple, clear, and intuitive instructions and procedures.
- Maximum readability and comprehensibility.
- Maximum legibility of text, tables, figures, and illustrations

Thompson, Johnstone, and Thurlow (2002)

Example

Universal Design Features?



Why Common Core?

- easyCBM was designed to be accessible to the widest geographic range of students possible (i.e., national).
- With the majority of states committing to adopt the common core standards, we opted to develop a test aligned to those standards

Common Core Standards

Grade 6

Domains

- Ratios and Proportional Relationships
- Number System
- Expressions and Equations
- Geometry
- Statistics and Probability

29 standard divided among 5 objectives.

Common Core Standards

Grade 7

Domains

- Ratios and Proportional Relationships
- Number System
- Expressions and Equations
- Geometry
- Statistics and Probability

24 standards divided among 5 domains.

Common Core Standards

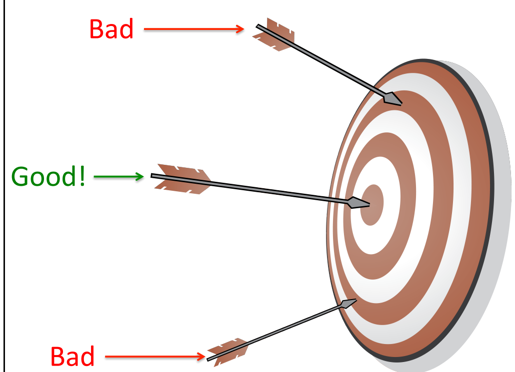
Grade 8

Domains

- Number System
- Expressions and Equations
- Functions
- Geometry
- Statistics and Probability

28 standards divided among 5 domains.

Importance of Alignment



Importance of Alignment

- Misaligned items create serious threats to the validity of interpretations and decisions made from the test

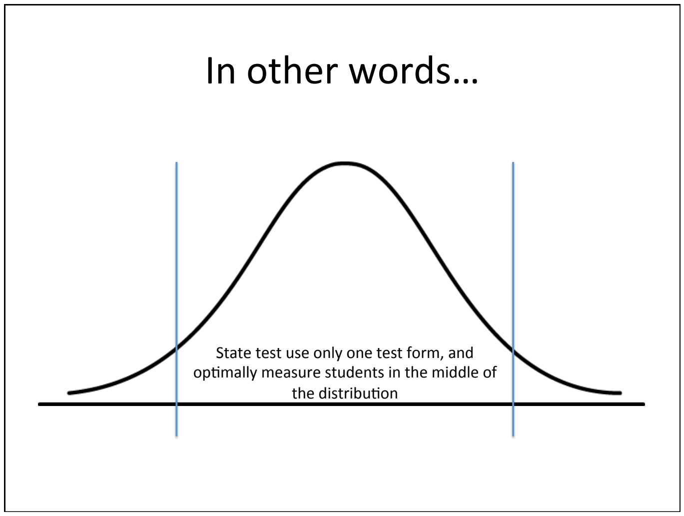
BUT

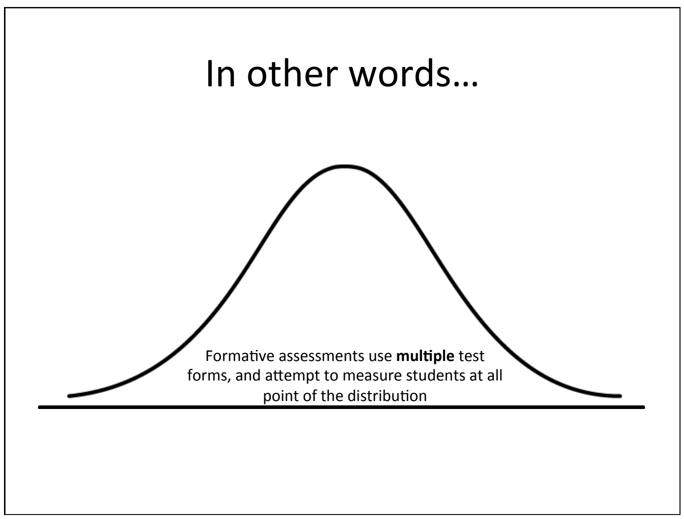
- Alignment of formative assessments needs to be conceptualized differently from large-scale summative assessments (e.g., state tests).

Formative versus Summative Alignment

- Formative assessments need to reeeaaaaaaach.
- Often students performing below expectations are progress-monitored w/ formative assessments
- State tests are designed to determine "proficiency".

http://www.hahastop.com/pictures/Reaching_Monkey.htm


In other words…
State test use only one test form, and optimally measure students in the middle of the distribution


In other words…
Formative assessments use **multiple** test forms, and attempt to measure students at all point of the distribution

Formative versus Summative Alignment

Summative Assessments

- Generally viewed through Webb (1999)
- Important criteria include:
  - Categorical concurrence
  - Depth of knowledge
  - Range of knowledge
  - Balance of Representation

Formative Assessments

- Much less research overall, but still important
- Formative assessments are designed to have more “reach” to so low performing students can access the scale
- Generally have multiple forms

All of this is to say…

- Some items that were developed to reach those lower performing students may not directly align to a standard **BUT** may address a requisite skill TO the item.
- In other words, the item may address a skill that students must master prior to mastering the standard. This is good information to know!

In our alignment

- We will not only be asking you to judge whether an item aligns with a given standard, but also whether it addresses a requisite skill.
- If the item addresses the standard then you don't have to worry about whether it addresses a requisite skill or not (answer "no").
- Only if the item **does not address the standard** are we interested in whether it addresses a requisite skill.

Scales and Questions

- 4 point alignment scale

Aligned
- 3 = Item is **directly** aligned with the standard
- 2 = Item is **somewhat** aligned with the standard

Not Aligned
- 1 = Item is **vaguely** aligned with the standard
- 0 = Item has **no** alignment to the standard

Scales and Questions

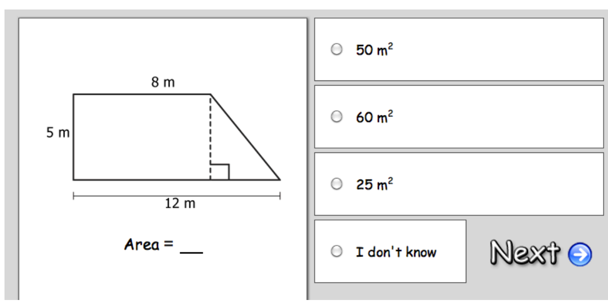
Dichotomous requisite skill item

- Does the item address and important requisite skill to the standard?
  - Yes
  - No

NOTE: If item is aligned, **always** choose "No" so you can finish with a "complete review". (More on this later)

Example: 3 (direct alignment)

Standard 6G1: Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.

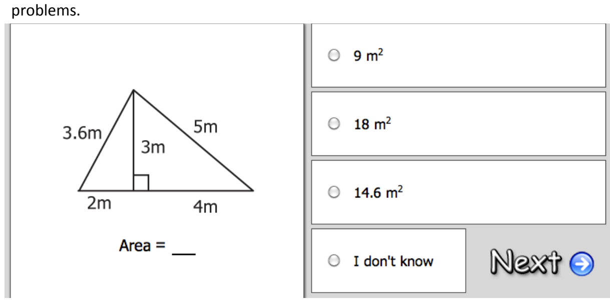


Addresses a Requisite Skill?

- No – because it addresses the standard.

Example: 2 (somewhat aligned)

Standard 6G1: Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.

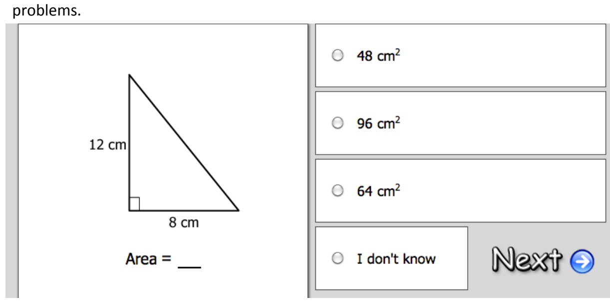


Addresses a Requisite Skill?

- No – because it addresses the standard.

Example: 1 (vaguely aligned)

Standard 6G1: Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.

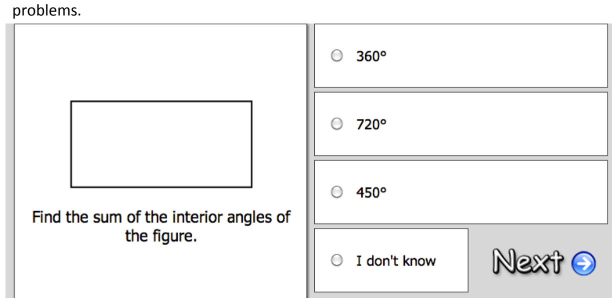


Addresses a Requisite Skill?

- Yes! – because you have to understand how to calculate the area of a triangle before you can find the area of complex shapes by decomposing it into quadrilaterals and rectangles.

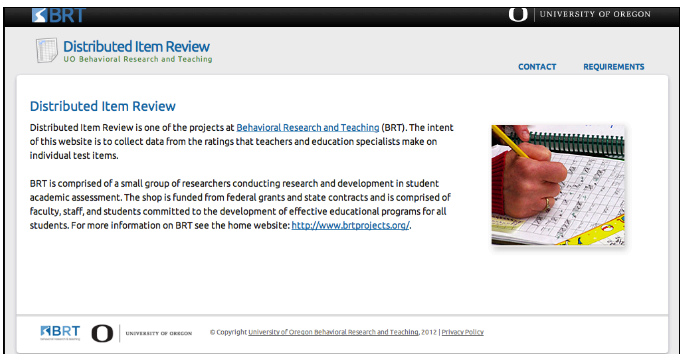
Example: 0 (no alignment)

Standard 6G1: Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.



Addresses a Requisite Skill?

- No – because summing interior angles is unrelated to the standard.



Transition time

Web-based alignment tool

Web-based Alignment Tool
Distributed Item Review (DIR)

- A web-based system for presenting ***test items*** to ***experts*** across a ***broad geographic region*** so they can ***review*** them for important dimensions of ***bias, sensitivity, and alignment with standards***.

Your Role in the Study

1. Complete a short, 3-item proficiency training reviewing the DIR
2. Using the DIR, complete main review to determine the alignment of 270 grade-level easyCBM® math items to:

- *The corresponding* ***Common Core Standard***

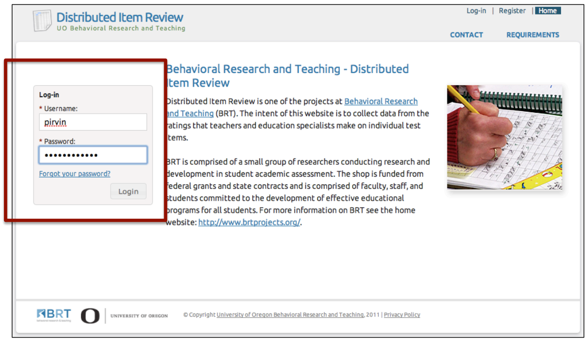
or

- ***Requisite skills*** necessary for mastery

Accessing the DIR

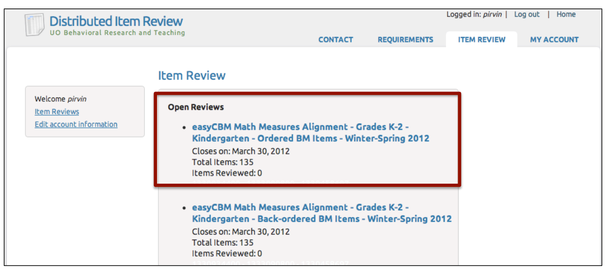
Log on to the DIR website:

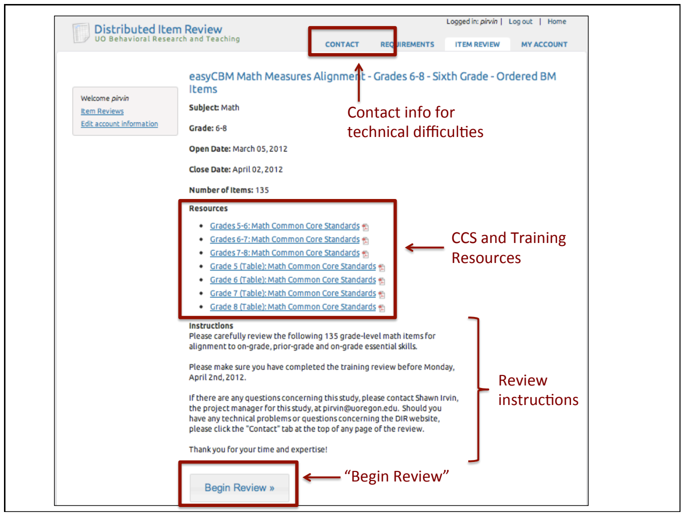
http://www.brtitemreview.com/shawndir



Accessing the DIR

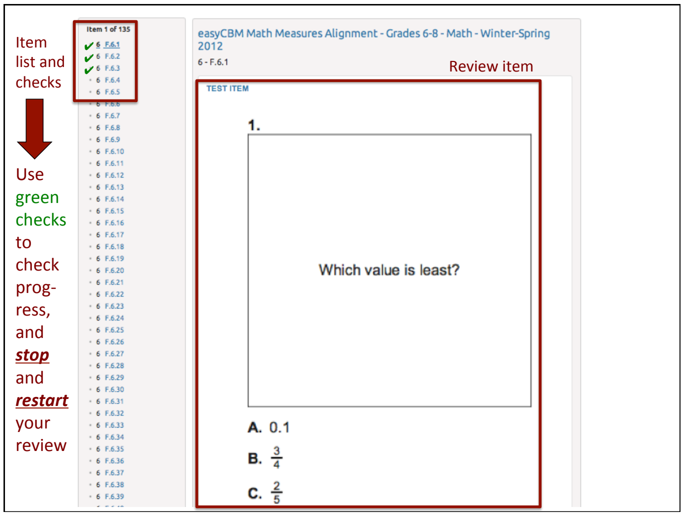
Access an open review by clicking on the title of your first review

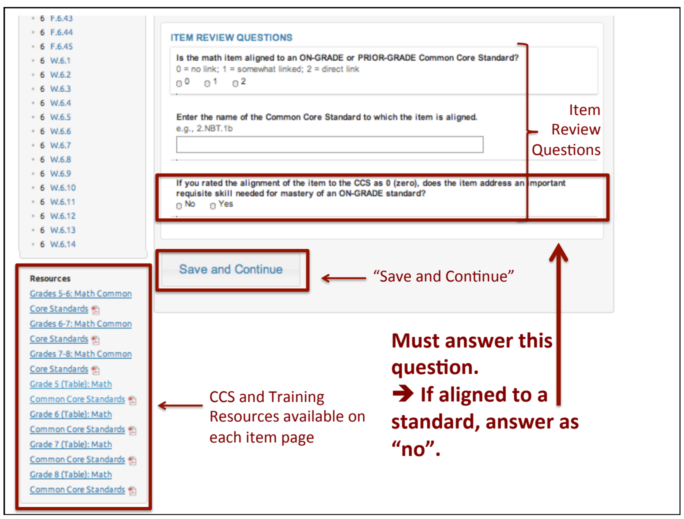




Reviewing Items on the DIR

1. Answer/complete ***all*** ***questions*** ***appropriate*** for a given item
2. Resources still accessible on item pages
3. ***CRITICAL!*** Click "Save and Continue" to save your responses and move to the next item
4. Check your progress, and stop and restart a review using "green checks"

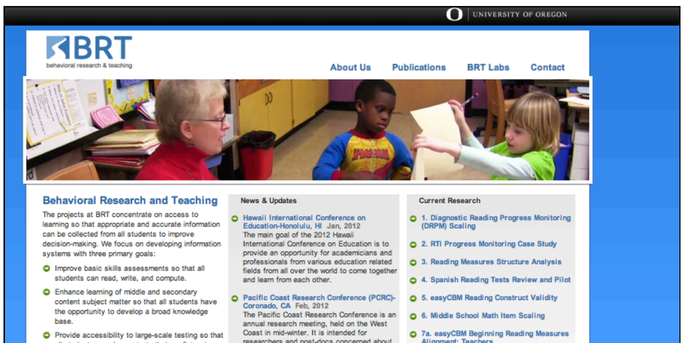

Item list and checks
Use green checks to check prog-ress, and stop and restart your review
easyCBM Math Measures Alignment - Grades 6-8 - Math - Winter-Spring 2012
6 - F.6.1
Review item
TEST ITEM
1.
Which value is least?
A. 0.1
B. 3/4
C. 2/5


ITEM REVIEW QUESTIONS
Is the math item aligned to an ON-GRADE or PRIOR-GRADE Common Core Standard?
0 = no link; 1 = somewhat linked; 2 = direct link
Enter the name of the Common Core Standard to which the item is aligned.
e.g., 2.NBT.1b
If you rated the alignment of the item to the CCS as 0 (zero), does the item address an important requisite skill needed for mastery of an ON-GRADE standard?
No Yes
Item Review Questions
Save and Continue
"Save and Continue"
Resources
Grades 5-6: Math Common Core Standards
Grades 6-7: Math Common Core Standards
Grades 7-8: Math Common Core Standards
Grade 5 (Table): Math Common Core Standards
Grade 6 (Table): Math Common Core Standards
Grade 7 (Table): Math Common Core Standards
Grade 8 (Table): Math Common Core Standards
CCS and Training Resources available on each item page
Must answer this question.
➔ If aligned to a standard, answer as "no".

Conclusions

- Each participant will use the DIR to rate the alignment of 270 middle school math items
  - If the item is not aligned, we also want to know if it addresses a requisite skill
- This work is critical to helping us develop an sound measurement system to inform teacher decision-making
  - Nearly 2.5 million students are in the easyCBM system! Your work will directly impact them!

Questions?



Thanks!

Contact info

DIR help: Shawn Irvin (pirvin@uoregon.edu)

Anything else: Daniel Anderson (daniela@uoregon.edu)

Appendix B

						Fit Statistics			
Item	ScoreTot	Obs. Avg.	Adj. Avg.	Endorsability	S.E.	InfitMS	InfitZ	OutfitMS	OutfitZ
6EE1003	9	3	2.91	-3.8	1.85	1	0	1	0
6EE1004	9	3	2.9	-3.64	1.85	1	0	1	0
6EE1005	9	3	2.86	-3.28	1.85	1	0	1	0
6EE1007	8	2.67	2.51	-1.93	1.06	.49	-.28	.43	-.3
6EE1011	9	3	2.9	-3.64	1.85	1	0	1	0
6EE1012	9	3	2.83	-3.12	1.85	1	0	1	0
6EE1013	9	3	2.91	-3.8	1.85	1	0	1	0
6EE1014	9	3	2.85	-3.21	1.85	1	0	1	0
6EE1017	9	3	2.83	-3.12	1.85	1	0	1	0
6EE1020	9	3	2.86	-3.28	1.85	1	0	1	0
6EE1023	9	3	2.91	-3.8	1.85	1	0	1	0
6EE1024	9	3	2.9	-3.64	1.85	1	0	1	0
6EE2002	7	2.33	2.11	-1.18	.82	.17	-1.68	.2	-1.41
6EE2003	8	2.67	2.51	-1.93	1.06	.49	-.28	.43	-.3
6EE2007	8	2.67	2.47	-1.85	1.05	.54	-.2	.48	-.24
6EE2008	9	3	2.9	-3.64	1.85	1	0	1	0
6EE2009	9	3	2.85	-3.21	1.85	1	0	1	0
6EE2012	9	3	2.91	-3.8	1.85	1	0	1	0
6EE2015	8	2.67	2.47	-1.85	1.05	.54	-.2	.48	-.24
6EE2016	8	2.67	2.54	-2.01	1.06	.68	-.01	.61	-.04
6EE2017	9	3	2.91	-3.8	1.85	1	0	1	0
6EE2019	9	3	2.9	-3.64	1.85	1	0	1	0
6EE2022	8	2.67	2.54	-2.01	1.06	.68	-.01	.61	-.04
6EE2024	9	3	2.85	-3.21	1.85	1	0	1	0
6EE3001	9	3	2.9	-3.64	1.85	1	0	1	0
6EE3003	7	2.33	2.02	-1.02	.81	1.73	1.09	1.65	.99
6EE3006	9	3	2.91	-3.8	1.85	1	0	1	0
6EE3008	9	3	2.85	-3.21	1.85	1	0	1	0
6EE3011	9	3	2.86	-3.28	1.85	1	0	1	0
6EE3012	9	3	2.83	-3.12	1.85	1	0	1	0
6EE3014	9	3	2.91	-3.8	1.85	1	0	1	0
6EE3016	9	3	2.9	-3.64	1.85	1	0	1	0
6EE3017	9	3	2.85	-3.21	1.85	1	0	1	0

Note. Endorsability reported on logit scale, with higher values indicating a “harder” to endorse item.

						Fit Statistics			
Item	ScoreTot	Obs. Avg.	Adj. Avg.	Endorsability	S.E.	InfitMS	InfitZ	OutfitMS	OutfitZ
6EE3020	8	2.67	2.54	-2.01	1.06	.55	-.18	.48	-.21
6EE3022	9	3	2.83	-3.12	1.85	1	0	1	0
6EE3024	9	3	2.9	-3.64	1.85	1	0	1	0
6EE4001	3	1	1.01	.76	.86	1.1	.4	1.15	.46
6EE4005	9	3	2.86	-3.28	1.85	1	0	1	0
6EE4006	9	3	2.85	-3.21	1.85	1	0	1	0
6EE4009	4	1.33	1.04	.69	.78	3.67	2.31	3.73	2.32
6EE4010	9	3	2.9	-3.64	1.85	1	0	1	0
6EE4012	9	3	2.91	-3.8	1.85	1	0	1	0
6EE4014	6	2	1.69	-.5	.75	.84	-.05	.85	-.04
6EE4016	6	2	1.74	-.57	.75	.71	-.28	.72	-.26
6EE4017	6	2	1.65	-.43	.74	4.23	3.16	4.44	3.28
6EE5002	9	3	2.91	-3.8	1.85	1	0	1	0
6EE5003	6	2	1.89	-.81	.77	.64	-.37	.62	-.41
6EE5004	9	3	2.85	-3.21	1.85	1	0	1	0
6EE5007	9	3	2.86	-3.28	1.85	1	0	1	0
6EE5009	9	3	2.83	-3.12	1.85	1	0	1	0
6EE5011	7	2.33	2.28	-1.46	.85	.84	.03	.75	-.07
6EE5013	8	2.67	2.51	-1.93	1.06	.49	-.28	.43	-.3
6EE5015	9	3	2.91	-3.8	1.85	1	0	1	0
6EE5018	7	2.33	2.11	-1.18	.82	.17	-1.68	.2	-1.41
6EE6002	9	3	2.83	-3.12	1.85	1	0	1	0
6EE6005	9	3	2.9	-3.64	1.85	1	0	1	0
6EE6006	8	2.67	2.71	-2.52	1.06	.95	.29	.96	.34
6EE6007	9	3	2.85	-3.21	1.85	1	0	1	0
6EE6011	6	2	1.74	-.57	.75	.71	-.28	.72	-.26
6EE6012	9	3	2.83	-3.12	1.85	1	0	1	0
6EE6014	9	3	2.9	-3.64	1.85	1	0	1	0
6EE6016	8	2.67	2.71	-2.52	1.06	.95	.29	.96	.34
6EE6017	8	2.67	2.51	-1.93	1.06	.78	.11	.73	.1
6EE7001	3	1	.81	1.24	.86	3.32	2	3.11	1.9
6EE7002	8	2.67	2.47	-1.85	1.05	.54	-.2	.48	-.24
6EE7005	8	2.67	2.66	-2.34	1.08	1.15	.48	1.22	.58

Note. Endorsability reported on logit scale, with higher values indicating a “harder” to endorse item.

Item	ScoreTot	Obs. Avg.	Adj. Avg.	Endorsability	S.E.	Fit Statistics InfitMS	InfitZ	OutfitMS	OutfitZ
6EE7007	3	1	1.01	.76	.86	1.1	.4	1.15	.46
6EE7009	6	2	1.69	-.5	.75	.84	-.05	.85	-.04
6EE7012	3	1	.81	1.24	.86	3.32	2	3.11	1.9
6EE7013	7	2.33	2.28	-1.46	.85	1.36	.67	1.24	.55
6EE7014	8	2.67	2.47	-1.85	1.05	.54	-.2	.48	-.24
6EE7016	7	2.33	2.38	-1.67	.83	2.59	1.78	2.97	1.98
6EE8001	9	3	2.85	-3.21	1.85	1	0	1	0
6EE8004	6	2	1.65	-.43	.74	.83	-.07	.84	-.06
6EE8006	6	2	1.74	-.57	.75	.6	-.51	.62	-.48
6EE8008	9	3	2.9	-3.64	1.85	1	0	1	0
6EE8011	9	3	2.85	-3.21	1.85	1	0	1	0
6EE8012	7	2.33	2.38	-1.67	.83	1.05	.31	.95	.19
6EE8014	7	2.33	2.11	-1.18	.82	.17	-1.68	.2	-1.41
6EE8016	6	2	1.65	-.43	.74	.83	-.07	.84	-.06
6EE8017	9	3	2.9	-3.64	1.85	1	0	1	0
6EE9001	9	3	2.85	-3.21	1.85	1	0	1	0
6EE9002	9	3	2.91	-3.8	1.85	1	0	1	0
6EE9006	9	3	2.86	-3.28	1.85	1	0	1	0
6EE9007	7	2.33	2.02	-1.02	.81	.22	-1.47	.25	-1.29
6EE9009	6	2	1.89	-.81	.77	.4	-.91	.42	-.86
6EE9010	8	2.67	2.71	-2.52	1.06	.95	.29	.96	.34
6EE9014	7	2.33	2.11	-1.18	.82	.17	-1.68	.2	-1.41
6EE9015	9	3	2.85	-3.21	1.85	1	0	1	0
6EE9016	9	3	2.83	-3.12	1.85	1	0	1	0
6G1003	6	2	1.69	-.5	.75	1.57	.98	1.65	1.07
6G1006	7	2.33	2.38	-1.67	.83	.24	-1.31	.29	-1.1
6G1007	9	3	2.9	-3.64	1.85	1	0	1	0
6G1008	5	1.67	1.41	-.02	.75	.87	.03	.85	.01
6G1009	6	2	2.04	-1.05	.75	.51	-.7	.53	-.66
6G1015	9	3	2.9	-3.64	1.85	1	0	1	0
6G1016	9	3	2.83	-3.12	1.85	1	0	1	0
6G1020	9	3	2.83	-3.12	1.85	1	0	1	0
6G1022	7	2.33	2.11	-1.18	.82	.17	-1.68	.2	-1.41

Note. Endorsability reported on logit scale, with higher values indicating a “harder” to endorse item.

Item	ScoreTot	Obs. Avg.	Adj. Avg.	Endorsability	S.E.	Fit Statistics			
						InfitMS	InfitZ	OutfitMS	OutfitZ
6G1023	7	2.33	2.28	-1.46	.85	.48	-.6	.6	-.3
6G1024	5	1.67	1.37	.05	.74	1.67	1.04	1.63	1
6G1026	6	2	1.74	-.57	.75	.1	-2.31	.1	-2.24
6G1027	8	2.67	2.71	-2.52	1.06	.95	.29	.96	.34
6G1028	8	2.67	2.51	-1.93	1.06	.49	-.28	.43	-.3
6G1032	1	.33	.21	3.26	1.16	1	.28	1	.28
6G1034	1	.33	.33	2.66	1.17	.92	.17	.85	.11
6G1035	6	2	1.69	-.5	.75	1.57	.98	1.65	1.07
6G1037	5	1.67	1.53	-.23	.76	1.6	.97	1.67	1.02
6G1038	8	2.67	2.66	-2.34	1.08	1.31	.62	1.83	.96
6G1039	9	3	2.91	-3.8	1.85	1	0	1	0
6G1042	9	3	2.83	-3.12	1.85	1	0	1	0
6G1043	8	2.67	2.54	-2.01	1.06	.68	-.01	.61	-.04
6G2001	8	2.67	2.54	-2.01	1.06	.68	-.01	.61	-.04
6G2003	5	1.67	1.53	-.23	.76	.04	-2.65	.04	-2.55
6G2007	9	3	2.85	-3.21	1.85	1	0	1	0
6G2008	4	1.33	1.04	.69	.78	3.31	2.11	3.53	2.21
6G2009	8	2.67	2.51	-1.93	1.06	.49	-.28	.43	-.3
6G2010	6	2	1.74	-.57	.75	.6	-.51	.62	-.48
6G2016	8	2.67	2.71	-2.52	1.06	.95	.29	.96	.34
6G2017	9	3	2.9	-3.64	1.85	1	0	1	0
6G2022	8	2.67	2.51	-1.93	1.06	.49	-.28	.43	-.3
6G2023	8	2.67	2.71	-2.52	1.06	.95	.29	.96	.34
6G2024	9	3	2.83	-3.12	1.85	1	0	1	0
6G2025	7	2.33	2.02	-1.02	.81	1.73	1.09	1.65	.99
6G2028	5	1.67	1.53	-.23	.76	.04	-2.65	.04	-2.55
6G2031	9	3	2.86	-3.28	1.85	1	0	1	0
6G2033	8	2.67	2.51	-1.93	1.06	.49	-.28	.43	-.3
6G2035	8	2.67	2.71	-2.52	1.06	.95	.29	.96	.34
6G2036	9	3	2.86	-3.28	1.85	1	0	1	0
6G2037	8	2.67	2.47	-1.85	1.05	.74	.06	.69	.04
6G2038	9	3	2.83	-3.12	1.85	1	0	1	0
6G2039	9	3	2.86	-3.28	1.85	1	0	1	0

Note. Endorsability reported on logit scale, with higher values indicating a “harder” to endorse item.

Item	ScoreTot	Obs. Avg.	Adj. Avg.	Endorsability	S.E.	Fit Statistics InfitMS	InfitZ	OutfitMS	OutfitZ
6G2040	8	2.67	2.71	-2.52	1.06	.95	.29	.96	.34
6G2042	8	2.67	2.51	-1.93	1.06	.49	-.28	.43	-.3
6G2043	7	2.33	2.28	-1.46	.85	.28	-1.1	.33	-.86
6G3005	8	2.67	2.51	-1.93	1.06	.49	-.28	.43	-.3
6G3006	6	2	2.04	-1.05	.75	.51	-.7	.53	-.66
6G3007	7	2.33	2.28	-1.46	.85	.48	-.6	.6	-.3
6G3008	8	2.67	2.71	-2.52	1.06	.95	.29	.96	.34
6G3009	7	2.33	2.11	-1.18	.82	.17	-1.68	.2	-1.41
6G3013	7	2.33	2.28	-1.46	.85	2.99	1.99	3.52	2.19
6G3014	8	2.67	2.47	-1.85	1.05	.54	-.2	.48	-.24
6G3015	9	3	2.85	-3.21	1.85	1	0	1	0
6G3019	7	2.33	2.02	-1.02	.81	.53	-.58	.56	-.47
6G3020	5	1.67	1.41	-.02	.75	.81	-.06	.8	-.08
6G3025	6	2	1.74	-.57	.75	.6	-.51	.62	-.48
6G3027	9	3	2.9	-3.64	1.85	1	0	1	0
6G3028	8	2.67	2.71	-2.52	1.06	.95	.29	.96	.34
6G3029	8	2.67	2.51	-1.93	1.06	.49	-.28	.43	-.3
6G3032	8	2.67	2.47	-1.85	1.05	.74	.06	.69	.04
6G3034	7	2.33	2.28	-1.46	.85	2.99	1.99	3.52	2.19
6G3036	8	2.67	2.71	-2.52	1.06	.95	.29	.96	.34
6G3037	8	2.67	2.51	-1.93	1.06	.49	-.28	.43	-.3
6G3042	9	3	2.86	-3.28	1.85	1	0	1	0
6G3043	9	3	2.83	-3.12	1.85	1	0	1	0
6G3044	6	2	2.04	-1.05	.75	1.51	.9	1.58	.98
6G3046	7	2.33	2.28	-1.46	.85	.84	.03	.75	-.07
6G4003	9	3	2.83	-3.12	1.85	1	0	1	0
6G4005	9	3	2.85	-3.21	1.85	1	0	1	0
6G4007	9	3	2.86	-3.28	1.85	1	0	1	0
6G4008	9	3	2.9	-3.64	1.85	1	0	1	0
6G4009	9	3	2.86	-3.28	1.85	1	0	1	0
6G4012	9	3	2.85	-3.21	1.85	1	0	1	0
6G4014	9	3	2.91	-3.8	1.85	1	0	1	0
6G4015	9	3	2.91	-3.8	1.85	1	0	1	0

Note. Endorsability reported on logit scale, with higher values indicating a “harder” to endorse item.

Item	ScoreTot	Obs. Avg.	Adj. Avg.	Endorsability	S.E.	Fit Statistics InfitMS	InfitZ	OutfitMS	OutfitZ
6G4017	9	3	2.9	-3.64	1.85	1	0	1	0
6G4018	7	2.33	2.02	-1.02	.81	1.73	1.09	1.65	.99
6G4022	7	2.33	2.11	-1.18	.82	.17	-1.68	.2	-1.41
6G4023	9	3	2.83	-3.12	1.85	1	0	1	0
6G4027	9	3	2.85	-3.21	1.85	1	0	1	0
6G4028	6	2	1.89	-.81	.77	.4	-.91	.42	-.86
6G4030	6	2	1.74	-.57	.75	.71	-.28	.72	-.26
6G4032	9	3	2.91	-3.8	1.85	1	0	1	0
6G4034	7	2.33	2.07	-1.1	.82	.54	-.56	.59	-.4
6G4035	7	2.33	2.02	-1.02	.81	.72	-.21	.7	-.21
6G4038	9	3	2.9	-3.64	1.85	1	0	1	0
6G4042	6	2	2.04	-1.05	.75	1.03	.27	1.03	.27
6G4043	8	2.67	2.51	-1.93	1.06	.49	-.28	.43	-.3
6G4044	5	1.67	1.33	.12	.74	.95	.15	.93	.12
6G4046	7	2.33	2.11	-1.18	.82	.17	-1.68	.2	-1.41
6NS1001	7	2.33	2.28	-1.46	.85	.84	.03	.75	-.07
6NS1002	9	3	2.91	-3.8	1.85	1	0	1	0
6NS1006	9	3	2.85	-3.21	1.85	1	0	1	0
6NS1008	9	3	2.86	-3.28	1.85	1	0	1	0
6NS1011	9	3	2.83	-3.12	1.85	1	0	1	0
6NS1012	9	3	2.9	-3.64	1.85	1	0	1	0
6NS1013	3	1	1.01	.76	.86	4.3	2.47	4.19	2.44
6NS1014	9	3	2.85	-3.21	1.85	1	0	1	0
6NS1017	9	3	2.83	-3.12	1.85	1	0	1	0
6NS1019	9	3	2.86	-3.28	1.85	1	0	1	0
6NS1021	8	2.67	2.66	-2.34	1.08	.27	-.7	.24	-.53
6NS1024	6	2	2.04	-1.05	.75	2.27	1.66	2.21	1.6
6NS2001	9	3	2.85	-3.21	1.85	1	0	1	0
6NS2002	7	2.33	2.11	-1.18	.82	2.56	1.8	3.13	2.11
6NS2005	6	2	1.65	-.43	.74	4.23	3.16	4.44	3.28
6NS2006	9	3	2.9	-3.64	1.85	1	0	1	0
6NS2009	9	3	2.91	-3.8	1.85	1	0	1	0
6NS2011	9	3	2.85	-3.21	1.85	1	0	1	0

Note. Endorsability reported on logit scale, with higher values indicating a “harder” to endorse item.

Item	ScoreTot	Obs. Avg.	Adj. Avg.	Endorsability	S.E.	Fit Statistics InfitMS	InfitZ	OutfitMS	OutfitZ
6NS2013	9	3	2.83	-3.12	1.85	1	0	1	0
6NS2015	9	3	2.86	-3.28	1.85	1	0	1	0
6NS2017	9	3	2.91	-3.8	1.85	1	0	1	0
6NS2018	9	3	2.9	-3.64	1.85	1	0	1	0
6NS2020	9	3	2.85	-3.21	1.85	1	0	1	0
6NS3001	9	3	2.86	-3.28	1.85	1	0	1	0
6NS3003	9	3	2.83	-3.12	1.85	1	0	1	0
6NS3005	8	2.67	2.71	-2.52	1.06	.95	.29	.96	.34
6NS3006	9	3	2.9	-3.64	1.85	1	0	1	0
6NS3009	9	3	2.85	-3.21	1.85	1	0	1	0
6NS3010	9	3	2.86	-3.28	1.85	1	0	1	0
6NS3013	9	3	2.9	-3.64	1.85	1	0	1	0
6NS3015	9	3	2.83	-3.12	1.85	1	0	1	0
6NS3017	8	2.67	2.71	-2.52	1.06	.95	.29	.96	.34
6NS3020	9	3	2.85	-3.21	1.85	1	0	1	0
6NS3021	9	3	2.86	-3.28	1.85	1	0	1	0
6NS4002	9	3	2.9	-3.64	1.85	1	0	1	0
6NS4003	9	3	2.83	-3.12	1.85	1	0	1	0
6NS4006	9	3	2.91	-3.8	1.85	1	0	1	0
6NS4008	9	3	2.85	-3.21	1.85	1	0	1	0
6NS4009	9	3	2.83	-3.12	1.85	1	0	1	0
6NS4010	9	3	2.86	-3.28	1.85	1	0	1	0
6NS4013	9	3	2.9	-3.64	1.85	1	0	1	0
6NS4014	9	3	2.91	-3.8	1.85	1	0	1	0
6NS4017	9	3	2.86	-3.28	1.85	1	0	1	0
6NS4020	9	3	2.85	-3.21	1.85	1	0	1	0
6NS4021	9	3	2.9	-3.64	1.85	1	0	1	0
6NS4023	9	3	2.83	-3.12	1.85	1	0	1	0
6NS5003	7	2.33	2.38	-1.67	.83	2.59	1.78	2.97	1.98
6NS5004	7	2.33	2.07	-1.1	.82	1.81	1.16	1.71	1.04
6NS5006	9	3	2.83	-3.12	1.85	1	0	1	0
6NS5008	9	3	2.86	-3.28	1.85	1	0	1	0
6NS5009	7	2.33	2.28	-1.46	.85	2.59	1.73	2.52	1.61

Note. Endorsability reported on logit scale, with higher values indicating a “harder” to endorse item.

						Fit Statistics			
Item	ScoreTot	Obs. Avg.	Adj. Avg.	Endorsability	S.E.	InfitMS	InfitZ	OutfitMS	OutfitZ
6NS5012	7	2.33	2.38	-1.67	.83	2.59	1.78	2.97	1.98
6NS5013	8	2.67	2.54	-2.01	1.06	.55	-.18	.48	-.21
6NS5016	7	2.33	2.07	-1.1	.82	1.81	1.16	1.71	1.04
6NS5017	7	2.33	2.28	-1.46	.85	2.59	1.73	2.52	1.61
6NS5020	9	3	2.83	-3.12	1.85	1	0	1	0
6NS5021	7	2.33	2.38	-1.67	.83	2.59	1.78	2.97	1.98
6NS5022	6	2	1.69	-.5	.75	.84	-.05	.85	-.04
6NS6001	8	2.67	2.54	-2.01	1.06	1.11	.45	1.55	.8
6NS6003	8	2.67	2.47	-1.85	1.05	.54	-.2	.48	-.24
6NS6005	9	3	2.91	-3.8	1.85	1	0	1	0
6NS6007	8	2.67	2.66	-2.34	1.08	1.15	.48	1.22	.58
6NS6009	9	3	2.86	-3.28	1.85	1	0	1	0
6NS6010	9	3	2.85	-3.21	1.85	1	0	1	0
6NS6013	8	2.67	2.66	-2.34	1.08	1.15	.48	1.22	.58
6NS6016	9	3	2.83	-3.12	1.85	1	0	1	0
6NS6018	8	2.67	2.51	-1.93	1.06	.78	.11	.73	.1
6NS6019	9	3	2.91	-3.8	1.85	1	0	1	0
6NS6022	8	2.67	2.47	-1.85	1.05	.54	-.2	.48	-.24
6NS6024	4	1.33	1.1	.56	.79	.12	-1.68	.11	-1.68
6NS7001	7	2.33	2.28	-1.46	.85	.84	.03	.75	-.07
6NS7004	9	3	2.91	-3.8	1.85	1	0	1	0
6NS7006	8	2.67	2.51	-1.93	1.06	.49	-.28	.43	-.3
6NS7008	7	2.33	2.11	-1.18	.82	2.56	1.8	3.13	2.11
6NS7011	4	1.33	1.04	.69	.78	.69	-.17	.72	-.12
6NS7012	7	2.33	2.28	-1.46	.85	.84	.03	.75	-.07
6NS7013	8	2.67	2.51	-1.93	1.06	.49	-.28	.43	-.3
6NS7014	9	3	2.91	-3.8	1.85	1	0	1	0
6NS7017	4	1.33	1.04	.69	.78	.69	-.17	.72	-.12
6NS7019	9	3	2.86	-3.28	1.85	1	0	1	0
6NS8001	9	3	2.9	-3.64	1.85	1	0	1	0
6NS8003	6	2	2.04	-1.05	.75	.51	-.7	.53	-.66
6NS8005	8	2.67	2.51	-1.93	1.06	.49	-.28	.43	-.3
6NS8007	9	3	2.86	-3.28	1.85	1	0	1	0

Note. Endorsability reported on logit scale, with higher values indicating a “harder” to endorse item.

Item	ScoreTot	Obs. Avg.	Adj. Avg.	Endorsability	S.E.	Fit Statistics InfitMS	InfitZ	OutfitMS	OutfitZ
6NS8009	7	2.33	2.02	-1.02	.81	1.35	.68	1.25	.56
6NS8012	9	3	2.9	-3.64	1.85	1	0	1	0
6NS8015	8	2.67	2.51	-1.93	1.06	.49	-.28	.43	-.3
6NS8016	6	2	2.04	-1.05	.75	.51	-.7	.53	-.66
6NS8019	7	2.33	2.11	-1.18	.82	.17	-1.68	.2	-1.41
6NS8020	7	2.33	2.02	-1.02	.81	1.35	.68	1.25	.56
6RP1001	9	3	2.85	-3.21	1.85	1	0	1	0
6RP1002	9	3	2.9	-3.64	1.85	1	0	1	0
6RP1007	7	2.33	2.11	-1.18	.82	.17	-1.68	.2	-1.41
6RP1008	9	3	2.83	-3.12	1.85	1	0	1	0
6RP1010	9	3	2.91	-3.8	1.85	1	0	1	0
6RP1013	8	2.67	2.66	-2.34	1.08	.27	-.7	.24	-.53
6RP1014	9	3	2.83	-3.12	1.85	1	0	1	0
6RP1015	8	2.67	2.51	-1.93	1.06	.49	-.28	.43	-.3
6RP1016	9	3	2.86	-3.28	1.85	1	0	1	0
6RP1017	9	3	2.91	-3.8	1.85	1	0	1	0
6RP1022	8	2.67	2.54	-2.01	1.06	.55	-.18	.48	-.21
6RP1024	8	2.67	2.47	-1.85	1.05	.74	.06	.69	.04
6RP1025	9	3	2.91	-3.8	1.85	1	0	1	0
6RP1029	8	2.67	2.66	-2.34	1.08	.27	-.7	.24	-.53
6RP1030	9	3	2.85	-3.21	1.85	1	0	1	0
6RP1032	8	2.67	2.51	-1.93	1.06	.49	-.28	.43	-.3
6RP1034	7	2.33	2.02	-1.02	.81	1.73	1.09	1.65	.99
6RP1036	9	3	2.86	-3.28	1.85	1	0	1	0
6RP1037	8	2.67	2.66	-2.34	1.08	.27	-.7	.24	-.53
6RP1038	8	2.67	2.71	-2.52	1.06	.38	-.47	.33	-.44
6RP1043	9	3	2.86	-3.28	1.85	1	0	1	0
6RP1044	9	3	2.91	-3.8	1.85	1	0	1	0
6RP1046	9	3	2.85	-3.21	1.85	1	0	1	0
6RP1047	7	2.33	2.02	-1.02	.81	1.73	1.09	1.65	.99
6RP1050	8	2.67	2.66	-2.34	1.08	.27	-.7	.24	-.53
6RP1053	9	3	2.83	-3.12	1.85	1	0	1	0
6RP1054	9	3	2.85	-3.21	1.85	1	0	1	0

Note. Endorsability reported on logit scale, with higher values indicating a “harder” to endorse item.

						Fit Statistics			
Item	ScoreTot	Obs. Avg.	Adj. Avg.	Endorsability	S.E.	InfitMS	InfitZ	OutfitMS	OutfitZ
6RP1055	9	3	2.86	-3.28	1.85	1	0	1	0
6RP1056	8	2.67	2.66	-2.34	1.08	.27	-.7	.24	-.53
6RP1059	7	2.33	2.38	-1.67	.83	.24	-1.31	.29	-1.1
6RP2001	9	3	2.86	-3.28	1.85	1	0	1	0
6RP2002	6	2	1.65	-.43	.74	.99	.19	.95	.14
6RP2003	8	2.67	2.51	-1.93	1.06	.49	-.28	.43	-.3
6RP2005	8	2.67	2.71	-2.52	1.06	.38	-.47	.33	-.44
6RP2008	8	2.67	2.66	-2.34	1.08	1.31	.62	1.83	.96
6RP2011	9	3	2.86	-3.28	1.85	1	0	1	0
6RP2014	9	3	2.9	-3.64	1.85	1	0	1	0
6RP2016	8	2.67	2.71	-2.52	1.06	.95	.29	.96	.34
6RP2017	8	2.67	2.51	-1.93	1.06	.49	-.28	.43	-.3
6RP2018	7	2.33	2.02	-1.02	.81	2.36	1.64	2.7	1.86
6RP2023	9	3	2.91	-3.8	1.85	1	0	1	0
6RP2024	9	3	2.86	-3.28	1.85	1	0	1	0
6RP2025	6	2	1.65	-.43	.74	1.35	.71	1.29	.64
6RP2028	9	3	2.9	-3.64	1.85	1	0	1	0
6RP2030	6	2	1.69	-.5	.75	1.57	.98	1.65	1.07
6RP2033	8	2.67	2.71	-2.52	1.06	.95	.29	.96	.34
6RP2035	8	2.67	2.47	-1.85	1.05	.74	.06	.69	.04
6RP2036	5	1.67	1.53	-.23	.76	2.8	2.01	2.69	1.89
6RP2038	8	2.67	2.51	-1.93	1.06	.49	-.28	.43	-.3
6RP2039	9	3	2.86	-3.28	1.85	1	0	1	0
6RP2041	6	2	1.65	-.43	.74	1.35	.71	1.29	.64
6RP2042	9	3	2.86	-3.28	1.85	1	0	1	0
6RP2044	8	2.67	2.51	-1.93	1.06	.49	-.28	.43	-.3
6RP2045	9	3	2.9	-3.64	1.85	1	0	1	0
6RP2049	9	3	2.91	-3.8	1.85	1	0	1	0
6RP2052	8	2.67	2.51	-1.93	1.06	.49	-.28	.43	-.3
6RP2054	8	2.67	2.47	-1.85	1.05	.74	.06	.69	.04
6RP2056	8	2.67	2.71	-2.52	1.06	.95	.29	.96	.34
6RP2058	9	3	2.9	-3.64	1.85	1	0	1	0
6RP2060	8	2.67	2.54	-2.01	1.06	1.11	.45	1.55	.8

Note. Endorsability reported on logit scale, with higher values indicating a “harder” to endorse item.

Item	ScoreTot	Obs. Avg.	Adj. Avg.	Endorsability	S.E.	Fit Statistics InfitMS	InfitZ	OutfitMS	OutfitZ
6RP3003	6	2	1.65	-.43	.74	.99	.19	.95	.14
6RP3006	9	3	2.85	-3.21	1.85	1	0	1	0
6RP3007	8	2.67	2.54	-2.01	1.06	.68	-.01	.61	-.04
6RP3009	7	2.33	2.38	-1.67	.83	1.05	.31	.95	.19
6RP3010	9	3	2.9	-3.64	1.85	1	0	1	0
6RP3011	6	2	2.04	-1.05	.75	.51	-.7	.53	-.66
6RP3012	7	2.33	2.02	-1.02	.81	1.35	.68	1.25	.56
6RP3014	6	2	1.89	-.81	.77	.64	-.37	.62	-.41
6RP3017	9	3	2.85	-3.21	1.85	1	0	1	0
6RP3019	9	3	2.86	-3.28	1.85	1	0	1	0
6RP3021	9	3	2.91	-3.8	1.85	1	0	1	0
6RP3023	9	3	2.85	-3.21	1.85	1	0	1	0
6RP3024	9	3	2.83	-3.12	1.85	1	0	1	0
6RP3025	9	3	2.9	-3.64	1.85	1	0	1	0
6RP3027	9	3	2.86	-3.28	1.85	1	0	1	0
6RP3031	7	2.33	2.11	-1.18	.82	.17	-1.68	.2	-1.41
6RP3033	9	3	2.85	-3.21	1.85	1	0	1	0
6RP3034	8	2.67	2.71	-2.52	1.06	1.14	.47	1.47	.74
6RP3036	5	1.67	1.33	.12	.74	1.65	1.03	1.63	1
6RP3040	9	3	2.9	-3.64	1.85	1	0	1	0
6RP3041	9	3	2.86	-3.28	1.85	1	0	1	0
6RP3042	9	3	2.91	-3.8	1.85	1	0	1	0
6RP3044	8	2.67	2.51	-1.93	1.06	.49	-.28	.43	-.3
6RP3047	4	1.33	1.04	.69	.78	.69	-.17	.72	-.12
6RP3049	9	3	2.9	-3.64	1.85	1	0	1	0
6RP3053	5	1.67	1.53	-.23	.76	.92	.12	.87	.04
6RP3056	4	1.33	1.35	.09	.78	1.93	1.2	1.91	1.17
6RP3058	7	2.33	2.07	-1.1	.82	1.26	.57	1.15	.44
6RP3059	5	1.67	1.41	-.02	.75	.33	-1.09	.34	-1.07
6RP3060	2	.67	.47	2.18	.95	2.9	1.87	3.04	1.98
6SP1001	8	2.67	2.71	-2.52	1.06	.95	.29	.96	.34
6SP1002	9	3	2.9	-3.64	1.85	1	0	1	0
6SP1006	8	2.67	2.51	-1.93	1.06	.49	-.28	.43	-.3

Note. Endorsability reported on logit scale, with higher values indicating a “harder” to endorse item.

Item	ScoreTot	Obs. Avg.	Adj. Avg.	Endorsability	S.E.	Fit Statistics InfitMS	InfitZ	OutfitMS	OutfitZ
6SP1007	9	3	2.9	-3.64	1.85	1	0	1	0
6SP1008	9	3	2.83	-3.12	1.85	1	0	1	0
6SP1010	8	2.67	2.54	-2.01	1.06	.55	-.18	.48	-.21
6SP1013	8	2.67	2.51	-1.93	1.06	.49	-.28	.43	-.3
6SP1014	8	2.67	2.71	-2.52	1.06	.95	.29	.96	.34
6SP1018	7	2.33	2.11	-1.18	.82	.17	-1.68	.2	-1.41
6SP1020	7	2.33	2.02	-1.02	.81	.22	-1.47	.25	-1.29
6SP1021	7	2.33	2.38	-1.67	.83	2.16	1.46	2.11	1.37
6SP1022	9	3	2.9	-3.64	1.85	1	0	1	0
6SP1025	8	2.67	2.47	-1.85	1.05	.74	.06	.69	.04
6SP1029	8	2.67	2.51	-1.93	1.06	.49	-.28	.43	-.3
6SP1030	5	1.67	1.41	-.02	.75	.81	-.06	.8	-.08
6SP1032	9	3	2.9	-3.64	1.85	1	0	1	0
6SP1034	8	2.67	2.51	-1.93	1.06	.49	-.28	.43	-.3
6SP1035	8	2.67	2.71	-2.52	1.06	.95	.29	.96	.34
6SP2004	6	2	1.74	-.57	.75	1.33	.69	1.27	.6
6SP2005	3	1	.9	1.02	.86	.69	-.13	.71	-.12
6SP2006	7	2.33	2.02	-1.02	.81	1.73	1.09	1.65	.99
6SP2008	6	2	1.69	-.5	.75	.84	-.05	.85	-.04
6SP2010	7	2.33	2.11	-1.18	.82	1.62	.98	1.49	.82
6SP2011	4	1.33	1.35	.09	.78	2.46	1.6	2.5	1.62
6SP2014	9	3	2.83	-3.12	1.85	1	0	1	0
6SP2016	6	2	2.04	-1.05	.75	.75	-.2	.73	-.24
6SP2017	2	.67	.58	1.84	.96	.2	-1.18	.24	-1.12
6SP2019	6	2	1.74	-.57	.75	1.84	1.27	1.94	1.36
6SP2020	6	2	1.69	-.5	.75	1.83	1.26	1.9	1.33
6SP2021	9	3	2.83	-3.12	1.85	1	0	1	0
6SP2027	3	1	.9	1.02	.86	.69	-.13	.71	-.12
6SP2028	4	1.33	1.35	.09	.78	.45	-.63	.42	-.68
6SP2029	9	3	2.85	-3.21	1.85	1	0	1	0
6SP2033	9	3	2.83	-3.12	1.85	1	0	1	0
6SP2034	7	2.33	2.28	-1.46	.85	1.36	.67	1.24	.55
6SP2035	5	1.67	1.41	-.02	.75	2.09	1.43	2.12	1.45

Note. Endorsability reported on logit scale, with higher values indicating a “harder” to endorse item.

Item	ScoreTot	Obs. Avg.	Adj. Avg.	Endorsability	S.E.	Fit Statistics InfitMS	InfitZ	OutfitMS	OutfitZ
6SP3004	6	2	2.04	-1.05	.75	2.27	1.66	2.21	1.6
6SP3005	9	3	2.86	-3.28	1.85	1	0	1	0
6SP3006	8	2.67	2.51	-1.93	1.06	.78	.11	.73	.1
6SP3008	3	1	.9	1.02	.86	.16	-1.34	.18	-1.31
6SP3010	6	2	2.04	-1.05	.75	2.27	1.66	2.21	1.6
6SP3012	9	3	2.83	-3.12	1.85	1	0	1	0
6SP3013	9	3	2.83	-3.12	1.85	1	0	1	0
6SP3015	7	2.33	2.07	-1.1	.82	.81	-.05	.79	-.05
6SP3016	7	2.33	2.11	-1.18	.82	2.56	1.8	3.13	2.11
6SP3021	4	1.33	1.07	.63	.78	3.47	2.21	3.74	2.33
6SP3022	3	1	.9	1.02	.86	.16	-1.34	.18	-1.31
6SP3023	7	2.33	2.38	-1.67	.83	.46	-.71	.53	-.5
6SP3025	9	3	2.86	-3.28	1.85	1	0	1	0
6SP3026	9	3	2.83	-3.12	1.85	1	0	1	0
6SP3029	4	1.33	1.21	.35	.79	.2	-1.4	.18	-1.42
6SP3032	7	2.33	2.11	-1.18	.82	2.56	1.8	3.13	2.11
6SP3034	4	1.33	1.35	.09	.78	2.46	1.6	2.5	1.62
6SP3036	7	2.33	2.07	-1.1	.82	.2	-1.52	.24	-1.3
6SP4002	6	2	1.89	-.81	.77	2.26	1.58	2.16	1.5
6SP4004	6	2	2.04	-1.05	.75	2.04	1.44	2.07	1.48
6SP4007	9	3	2.85	-3.21	1.85	1	0	1	0
6SP4010	9	3	2.86	-3.28	1.85	1	0	1	0
6SP4012	9	3	2.83	-3.12	1.85	1	0	1	0
6SP4015	1	.33	.22	3.2	1.17	1.23	.53	1.41	.71
6SP4016	3	1	.9	1.02	.86	.95	.23	.99	.27
6SP4018	9	3	2.91	-3.8	1.85	1	0	1	0
6SP4020	9	3	2.83	-3.12	1.85	1	0	1	0
6SP4023	7	2.33	2.28	-1.46	.85	.28	-1.1	.33	-.86
6SP4024	7	2.33	2.11	-1.18	.82	.17	-1.68	.2	-1.41
6SP4027	9	3	2.86	-3.28	1.85	1	0	1	0
6SP4029	7	2.33	2.38	-1.67	.83	2.59	1.78	2.97	1.98
6SP4030	8	2.67	2.51	-1.93	1.06	.78	.11	.73	.1
6SP4031	7	2.33	2.38	-1.67	.83	1.01	.26	.94	.18

Note. Endorsability reported on logit scale, with higher values indicating a “harder” to endorse item.

						Fit Statistics			
Item	ScoreTot	Obs. Avg.	Adj. Avg.	Endorsability	S.E.	InfitMS	InfitZ	OutfitMS	OutfitZ
6SP4034	7	2.33	2.02	-1.02	.81	1.73	1.09	1.65	.99
6SP4036	7	2.33	2.28	-1.46	.85	2.59	1.73	2.52	1.61
6SP5001	8	2.67	2.51	-1.93	1.06	.49	-.28	.43	-.3
6SP5002	8	2.67	2.47	-1.85	1.05	.74	.06	.69	.04
6SP5006	8	2.67	2.54	-2.01	1.06	1.11	.45	1.55	.8
6SP5007	6	2	1.89	-.81	.77	1.98	1.34	1.92	1.29
6SP5009	9	3	2.85	-3.21	1.85	1	0	1	0
6SP5011	9	3	2.91	-3.8	1.85	1	0	1	0
6SP5013	9	3	2.9	-3.64	1.85	1	0	1	0
6SP5014	7	2.33	2.02	-1.02	.81	2.36	1.64	2.7	1.86
6SP5017	9	3	2.86	-3.28	1.85	1	0	1	0
6SP5020	9	3	2.91	-3.8	1.85	1	0	1	0
6SP5021	8	2.67	2.51	-1.93	1.06	1.08	.42	1.43	.71
6SP5023	5	1.67	1.41	-.02	.75	.33	-1.09	.34	-1.07
6SP5026	8	2.67	2.47	-1.85	1.05	1.03	.37	1.29	.61
6SP5027	7	2.33	2.38	-1.67	.83	1.05	.31	.95	.19
6SP5028	9	3	2.9	-3.64	1.85	1	0	1	0
6SP5032	3	1	.81	1.24	.86	.08	-1.71	.07	-1.75
6SP5034	7	2.33	2.07	-1.1	.82	.81	-.05	.79	-.05
6SP5035	8	2.67	2.47	-1.85	1.05	.74	.06	.69	.04
7EE1001	8	2.67	2.7	-2.5	1.06	.39	-.45	.34	-.42
7EE1005	9	3	2.89	-3.56	1.85	1	0	1	0
7EE1007	8	2.67	2.7	-2.5	1.06	.39	-.45	.34	-.42
7EE1008	8	2.67	2.77	-2.77	1.05	.57	-.15	.52	-.2
7EE1009	9	3	2.93	-4.04	1.84	1	0	1	0
7EE1014	8	2.67	2.74	-2.66	1.06	.52	-.23	.44	-.23
7EE1015	9	3	2.93	-4.04	1.84	1	0	1	0
7EE1016	9	3	2.89	-3.56	1.85	1	0	1	0
7EE1017	9	3	2.89	-3.56	1.85	1	0	1	0
7EE1019	9	3	2.89	-3.56	1.85	1	0	1	0
7EE1021	8	2.67	2.74	-2.66	1.06	.52	-.23	.44	-.23
7EE1022	9	3	2.85	-3.23	1.85	1	0	1	0
7EE1025	6	2	1.74	-.57	.73	2.87	2.29	2.84	2.26

Note. Endorsability reported on logit scale, with higher values indicating a “harder” to endorse item.

Item	ScoreTot	Obs. Avg.	Adj. Avg.	Endorsability	S.E.	Fit Statistics InfitMS	InfitZ	OutfitMS	OutfitZ
7EE1027	5	1.67	1.67	-.47	.75	3.56	2.51	3.45	2.41
7EE1030	6	2	1.74	-.57	.73	2.87	2.29	2.84	2.26
7EE1031	9	3	2.93	-3.94	1.85	1	0	1	0
7EE1032	8	2.67	2.74	-2.66	1.06	.52	-.23	.44	-.23
7EE1036	9	3	2.93	-4.04	1.84	1	0	1	0
7EE1038	9	3	2.85	-3.23	1.85	1	0	1	0
7EE1040	9	3	2.85	-3.23	1.85	1	0	1	0
7EE1041	5	1.67	1.67	-.47	.75	3.56	2.51	3.45	2.41
7EE1043	9	3	2.93	-3.94	1.85	1	0	1	0
7EE1044	7	2.33	2.26	-1.42	.83	2.45	1.67	2.6	1.74
7EE2001	9	3	2.89	-3.56	1.85	1	0	1	0
7EE2005	9	3	2.91	-3.78	1.85	1	0	1	0
7EE2006	7	2.33	2.51	-1.95	.81	1.69	1.05	1.62	.97
7EE2008	5	1.67	1.42	-.04	.73	1.7	1.09	1.72	1.11
7EE2010	9	3	2.91	-3.78	1.85	1	0	1	0
7EE2013	9	3	2.91	-3.78	1.85	1	0	1	0
7EE2015	9	3	2.89	-3.56	1.85	1	0	1	0
7EE2016	8	2.67	2.74	-2.66	1.06	.68	-.01	.59	-.03
7EE2019	9	3	2.93	-4.04	1.84	1	0	1	0
7EE2020	8	2.67	2.52	-1.97	1.05	.79	.12	.81	.15
7EE2022	9	3	2.89	-3.56	1.85	1	0	1	0
7EE2023	8	2.67	2.7	-2.5	1.06	.91	.25	.87	.26
7EE2025	8	2.67	2.77	-2.77	1.05	.72	.04	.68	.02
7EE2026	7	2.33	2.46	-1.82	.83	.12	-1.88	.16	-1.48
7EE2028	7	2.33	2.51	-1.95	.81	2.26	1.57	2.53	1.76
7EE2033	9	3	2.89	-3.56	1.85	1	0	1	0
7EE2034	8	2.67	2.74	-2.66	1.06	.68	-.01	.59	-.03
7EE2035	8	2.67	2.74	-2.66	1.06	.68	-.01	.59	-.03
7EE2038	7	2.33	2.51	-1.95	.81	1.69	1.05	1.62	.97
7EE2041	9	3	2.85	-3.23	1.85	1	0	1	0
7EE2044	5	1.67	1.42	-.04	.73	1.7	1.09	1.72	1.11
7EE3001	9	3	2.85	-3.23	1.85	1	0	1	0
7EE3002	8	2.67	2.7	-2.5	1.06	.39	-.45	.34	-.42

Note. Endorsability reported on logit scale, with higher values indicating a “harder” to endorse item.

Item	ScoreTot	Obs. Avg.	Adj. Avg.	Endorsability	S.E.	Fit Statistics InfitMS	InfitZ	OutfitMS	OutfitZ
7EE3005	7	2.33	2.46	-1.82	.83	1.63	.99	1.45	.77
7EE3006	8	2.67	2.63	-2.27	1.06	1.05	.39	1.18	.53
7EE3009	8	2.67	2.7	-2.5	1.06	.39	-.45	.34	-.42
7EE3010	8	2.67	2.77	-2.77	1.05	.57	-.15	.52	-.2
7EE3012	8	2.67	2.77	-2.77	1.05	.57	-.15	.52	-.2
7EE3016	9	3	2.85	-3.23	1.85	1	0	1	0
7EE3017	8	2.67	2.77	-2.77	1.05	.57	-.15	.52	-.2
7EE3018	8	2.67	2.7	-2.5	1.06	.39	-.45	.34	-.42
7EE3020	9	3	2.85	-3.23	1.85	1	0	1	0
7EE3022	9	3	2.89	-3.56	1.85	1	0	1	0
7EE3023	3	1	.91	1	.86	.92	.2	.95	.22
7EE3024	7	2.33	2.38	-1.65	.83	1.07	.34	.96	.2
7EE3025	8	2.67	2.74	-2.66	1.06	.52	-.23	.44	-.23
7EE3030	8	2.67	2.63	-2.27	1.06	.36	-.51	.32	-.47
7EE3033	9	3	2.93	-3.94	1.85	1	0	1	0
7EE3034	9	3	2.85	-3.23	1.85	1	0	1	0
7EE3037	9	3	2.93	-3.94	1.85	1	0	1	0
7EE3038	9	3	2.93	-3.94	1.85	1	0	1	0
7EE3040	8	2.67	2.52	-1.97	1.05	.79	.12	.81	.15
7EE3043	7	2.33	2.51	-1.95	.81	.52	-.6	.54	-.53
7EE3045	9	3	2.89	-3.56	1.85	1	0	1	0
7EE4002	9	3	2.85	-3.23	1.85	1	0	1	0
7EE4004	8	2.67	2.7	-2.5	1.06	.39	-.45	.34	-.42
7EE4006	9	3	2.85	-3.23	1.85	1	0	1	0
7EE4010	9	3	2.93	-4.04	1.84	1	0	1	0
7EE4011	9	3	2.85	-3.23	1.85	1	0	1	0
7EE4013	9	3	2.93	-4.04	1.84	1	0	1	0
7EE4014	9	3	2.89	-3.56	1.85	1	0	1	0
7EE4016	9	3	2.93	-3.94	1.85	1	0	1	0
7EE4017	9	3	2.93	-4.04	1.84	1	0	1	0
7EE4021	8	2.67	2.7	-2.5	1.06	.39	-.45	.34	-.42
7EE4023	3	1	1.07	.63	.86	1.71	.98	1.89	1.13
7EE4027	9	3	2.85	-3.23	1.85	1	0	1	0

Note. Endorsability reported on logit scale, with higher values indicating a “harder” to endorse item.

						Fit Statistics			
Item	ScoreTot	Obs. Avg.	Adj. Avg.	Endorsability	S.E.	InfitMS	InfitZ	OutfitMS	OutfitZ
7EE4028	6	2	2.22	-1.36	.74	.84	-.06	.85	-.05
7EE4029	8	2.67	2.7	-2.5	1.06	.39	-.45	.34	-.42
7EE4030	9	3	2.91	-3.78	1.85	1	0	1	0
7EE4031	9	3	2.89	-3.56	1.85	1	0	1	0
7EE4035	5	1.67	1.54	-.25	.75	1.22	.53	1.16	.45
7EE4037	9	3	2.93	-3.94	1.85	1	0	1	0
7EE4039	8	2.67	2.63	-2.27	1.06	.36	-.51	.32	-.47
7EE4040	6	2	2.03	-1.03	.76	.94	.13	.93	.12
7EE4044	9	3	2.93	-4.04	1.84	1	0	1	0
7EE4045	8	2.67	2.74	-2.66	1.06	.68	-.01	.59	-.03
7G1001	8	2.67	2.52	-1.97	1.05	.61	-.1	.57	-.14
7G1005	8	2.67	2.7	-2.5	1.06	.39	-.45	.34	-.42
7G1007	8	2.67	2.63	-2.27	1.06	.36	-.51	.32	-.47
7G1008	8	2.67	2.77	-2.77	1.05	.72	.04	.68	.02
7G1010	9	3	2.91	-3.78	1.85	1	0	1	0
7G1012	7	2.33	2.51	-1.95	.81	.66	-.32	.65	-.32
7G1013	8	2.67	2.7	-2.5	1.06	.39	-.45	.34	-.42
7G1017	9	3	2.93	-3.94	1.85	1	0	1	0
7G1018	5	1.67	1.42	-.04	.73	1.7	1.09	1.72	1.11
7G1020	9	3	2.89	-3.56	1.85	1	0	1	0
7G1024	9	3	2.89	-3.56	1.85	1	0	1	0
7G1025	7	2.33	2.1	-1.15	.81	.36	-1.01	.38	-.96
7G1026	9	3	2.93	-3.94	1.85	1	0	1	0
7G1028	5	1.67	1.78	-.63	.76	1.06	.32	1.05	.31
7G1029	7	2.33	2.51	-1.95	.81	.66	-.32	.65	-.32
7G2002	8	2.67	2.7	-2.5	1.06	.91	.25	.87	.26
7G2003	4	1.33	1.12	.53	.78	.54	-.42	.56	-.39
7G2004	5	1.67	1.54	-.25	.75	.69	-.29	.7	-.25
7G2007	7	2.33	2.38	-1.65	.83	.52	-.57	.61	-.33
7G2010	7	2.33	2.51	-1.95	.81	1.69	1.05	1.62	.97
7G2011	8	2.67	2.63	-2.27	1.06	.36	-.51	.32	-.47
7G2013	8	2.67	2.74	-2.66	1.06	.68	-.01	.59	-.03
7G2014	8	2.67	2.74	-2.66	1.06	.68	-.01	.59	-.03

Note. Endorsability reported on logit scale, with higher values indicating a “harder” to endorse item.

Item	ScoreTot	Obs. Avg.	Adj. Avg.	Endorsability	S.E.	Fit Statistics InfitMS	InfitZ	OutfitMS	OutfitZ
7G2017	9	3	2.85	-3.23	1.85	1	0	1	0
7G2018	8	2.67	2.74	-2.66	1.06	.68	-.01	.59	-.03
7G2021	9	3	2.91	-3.78	1.85	1	0	1	0
7G2023	8	2.67	2.77	-2.77	1.05	.72	.04	.68	.02
7G2025	8	2.67	2.63	-2.27	1.06	.36	-.51	.32	-.47
7G2029	7	2.33	2.51	-1.95	.81	1.69	1.05	1.62	.97
7G2030	9	3	2.85	-3.23	1.85	1	0	1	0
7G3001	7	2.33	2.51	-1.95	.81	2.26	1.57	2.53	1.76
7G3003	9	3	2.91	-3.78	1.85	1	0	1	0
7G3006	9	3	2.93	-3.94	1.85	1	0	1	0
7G3008	5	1.67	1.54	-.25	.75	2.46	1.77	2.62	1.87
7G3009	7	2.33	2.46	-1.82	.83	.71	-.21	.83	.03
7G3011	9	3	2.89	-3.56	1.85	1	0	1	0
7G3013	5	1.67	1.67	-.47	.75	3.21	2.29	3.31	2.33
7G3017	9	3	2.85	-3.23	1.85	1	0	1	0
7G3018	9	3	2.85	-3.23	1.85	1	0	1	0
7G3020	9	3	2.85	-3.23	1.85	1	0	1	0
7G3023	7	2.33	2.51	-1.95	.81	2.26	1.57	2.53	1.76
7G3024	8	2.67	2.74	-2.66	1.06	.52	-.23	.44	-.23
7G3026	9	3	2.89	-3.56	1.85	1	0	1	0
7G3029	7	2.33	2.51	-1.95	.81	2.26	1.57	2.53	1.76
7G3030	5	1.67	1.67	-.47	.75	3.21	2.29	3.31	2.33
7G4003	9	3	2.91	-3.78	1.85	1	0	1	0
7G4004	8	2.67	2.74	-2.66	1.06	.52	-.23	.44	-.23
7G4005	8	2.67	2.77	-2.77	1.05	.57	-.15	.52	-.2
7G4007	9	3	2.89	-3.56	1.85	1	0	1	0
7G4010	9	3	2.89	-3.56	1.85	1	0	1	0
7G4011	8	2.67	2.74	-2.66	1.06	.52	-.23	.44	-.23
7G4012	8	2.67	2.77	-2.77	1.05	.57	-.15	.52	-.2
7G4014	9	3	2.91	-3.78	1.85	1	0	1	0
7G4019	6	2	1.74	-.57	.73	.92	.07	.91	.05
7G4020	9	3	2.93	-4.04	1.84	1	0	1	0
7G4022	8	2.67	2.7	-2.5	1.06	.39	-.45	.34	-.42

Note. Endorsability reported on logit scale, with higher values indicating a "harder" to endorse item.

Item	ScoreTot	Obs. Avg.	Adj. Avg.	Endorsability	S.E.	Fit Statistics InfitMS	InfitZ	OutfitMS	OutfitZ
7G4023	8	2.67	2.74	-2.66	1.06	.52	-.23	.44	-.23
7G4025	7	2.33	2.1	-1.15	.81	1.48	.84	1.43	.77
7G4028	5	1.67	1.42	-.04	.73	1.7	1.09	1.72	1.11
7G4029	9	3	2.89	-3.56	1.85	1	0	1	0
7G5003	8	2.67	2.63	-2.27	1.06	.36	-.51	.32	-.47
7G5005	8	2.67	2.63	-2.27	1.06	.36	-.51	.32	-.47
7G5006	6	2	2.22	-1.36	.74	4.07	3.09	4.24	3.19
7G5009	9	3	2.89	-3.56	1.85	1	0	1	0
7G5010	6	2	1.74	-.57	.73	1.06	.3	1.07	.31
7G5011	9	3	2.91	-3.78	1.85	1	0	1	0
7G5012	9	3	2.91	-3.78	1.85	1	0	1	0
7G5016	9	3	2.93	-3.94	1.85	1	0	1	0
7G5017	8	2.67	2.52	-1.97	1.05	.61	-.1	.57	-.14
7G5019	8	2.67	2.52	-1.97	1.05	.61	-.1	.57	-.14
7G5022	9	3	2.93	-4.04	1.84	1	0	1	0
7G5025	8	2.67	2.74	-2.66	1.06	.52	-.23	.44	-.23
7G5026	8	2.67	2.74	-2.66	1.06	.68	-.01	.59	-.03
7G5028	9	3	2.93	-4.04	1.84	1	0	1	0
7G5029	8	2.67	2.7	-2.5	1.06	1.18	.51	1.64	.85
7G6002	6	2	2.13	-1.2	.76	1.17	.47	1.1	.37
7G6003	9	3	2.91	-3.78	1.85	1	0	1	0
7G6005	9	3	2.89	-3.56	1.85	1	0	1	0
7G6006	9	3	2.85	-3.23	1.85	1	0	1	0
7G6009	7	2.33	2.51	-1.95	.81	1.41	.75	1.32	.65
7G6012	9	3	2.93	-4.04	1.84	1	0	1	0
7G6013	7	2.33	2.1	-1.15	.81	.39	-.92	.41	-.88
7G6014	7	2.33	2.1	-1.15	.81	.39	-.92	.41	-.88
7G6017	9	3	2.93	-4.04	1.84	1	0	1	0
7G6018	8	2.67	2.74	-2.66	1.06	1.21	.53	1.93	1.02
7G6022	6	2	1.89	-.81	.75	.58	-.54	.58	-.54
7G6023	8	2.67	2.63	-2.27	1.06	.36	-.51	.32	-.47
7G6025	5	1.67	1.78	-.63	.76	.36	-.97	.37	-.95
7G6027	9	3	2.91	-3.78	1.85	1	0	1	0

Note. Endorsability reported on logit scale, with higher values indicating a “harder” to endorse item.

						Fit Statistics			
Item	ScoreTot	Obs. Avg.	Adj. Avg.	Endorsability	S.E.	InfitMS	InfitZ	OutfitMS	OutfitZ
7G6029	9	3	2.91	-3.78	1.85	1	0	1	0
7NS1002	7	2.33	2.1	-1.15	.81	1.83	1.2	1.86	1.22
7NS1004	9	3	2.93	-3.94	1.85	1	0	1	0
7NS1007	8	2.67	2.74	-2.66	1.06	.68	-.01	.59	-.03
7NS1008	9	3	2.93	-4.04	1.84	1	0	1	0
7NS1010	9	3	2.85	-3.23	1.85	1	0	1	0
7NS1012	8	2.67	2.77	-2.77	1.05	.57	-.15	.52	-.2
7NS1013	8	2.67	2.63	-2.27	1.06	.36	-.51	.32	-.47
7NS1018	9	3	2.91	-3.78	1.85	1	0	1	0
7NS1019	7	2.33	2.1	-1.15	.81	1.48	.84	1.43	.77
7NS1020	8	2.67	2.63	-2.27	1.06	.36	-.51	.32	-.47
7NS1023	7	2.33	2.1	-1.15	.81	1.9	1.26	1.95	1.31
7NS1024	8	2.67	2.7	-2.5	1.06	.39	-.45	.34	-.42
7NS1027	7	2.33	2.26	-1.42	.83	2.45	1.67	2.6	1.74
7NS1028	9	3	2.93	-3.94	1.85	1	0	1	0
7NS1030	9	3	2.89	-3.56	1.85	1	0	1	0
7NS1035	9	3	2.93	-4.04	1.84	1	0	1	0
7NS1036	5	1.67	1.67	-.47	.75	.11	-2.03	.11	-1.98
7NS1038	7	2.33	2.38	-1.65	.83	1.07	.34	.96	.2
7NS1039	8	2.67	2.77	-2.77	1.05	.57	-.15	.52	-.2
7NS1040	9	3	2.93	-3.94	1.85	1	0	1	0
7NS1042	8	2.67	2.52	-1.97	1.05	.61	-.1	.57	-.14
7NS1045	8	2.67	2.7	-2.5	1.06	.39	-.45	.34	-.42
7NS1047	8	2.67	2.74	-2.66	1.06	.52	-.23	.44	-.23
7NS1048	9	3	2.93	-4.04	1.84	1	0	1	0
7NS1050	4	1.33	1.22	.33	.78	2.11	1.35	2.11	1.34
7NS1051	8	2.67	2.74	-2.66	1.06	.52	-.23	.44	-.23
7NS1055	7	2.33	2.38	-1.65	.83	2.7	1.87	3.26	2.14
7NS1057	8	2.67	2.77	-2.77	1.05	.57	-.15	.52	-.2
7NS1058	9	3	2.89	-3.56	1.85	1	0	1	0
7NS1059	7	2.33	2.1	-1.15	.81	1.48	.84	1.43	.77
7NS2001	6	2	1.74	-.57	.73	.92	.07	.91	.05
7NS2002	8	2.67	2.77	-2.77	1.05	.57	-.15	.52	-.2

Note. Endorsability reported on logit scale, with higher values indicating a “harder” to endorse item.

						Fit Statistics			
Item	ScoreTot	Obs. Avg.	Adj. Avg.	Endorsability	S.E.	InfitMS	InfitZ	OutfitMS	OutfitZ
7NS2006	7	2.33	2.1	-1.15	.81	1.48	.84	1.43	.77
7NS2007	8	2.67	2.63	-2.27	1.06	1.08	.42	1.25	.58
7NS2008	8	2.67	2.77	-2.77	1.05	.57	-.15	.52	-.2
7NS2014	9	3	2.89	-3.56	1.85	1	0	1	0
7NS2015	8	2.67	2.74	-2.66	1.06	.52	-.23	.44	-.23
7NS2016	8	2.67	2.63	-2.27	1.06	.36	-.51	.32	-.47
7NS2017	7	2.33	2.38	-1.65	.83	2.7	1.87	3.26	2.14
7NS2018	8	2.67	2.7	-2.5	1.06	.39	-.45	.34	-.42
7NS2021	8	2.67	2.74	-2.66	1.06	.52	-.23	.44	-.23
7NS2023	7	2.33	2.1	-1.15	.81	1.48	.84	1.43	.77
7NS2024	9	3	2.91	-3.78	1.85	1	0	1	0
7NS2025	8	2.67	2.77	-2.77	1.05	.57	-.15	.52	-.2
7NS2026	8	2.67	2.74	-2.66	1.06	.52	-.23	.44	-.23
7NS2033	8	2.67	2.77	-2.77	1.05	.57	-.15	.52	-.2
7NS2034	9	3	2.93	-3.94	1.85	1	0	1	0
7NS2037	9	3	2.91	-3.78	1.85	1	0	1	0
7NS2038	9	3	2.91	-3.78	1.85	1	0	1	0
7NS2039	7	2.33	2.1	-1.15	.81	1.48	.84	1.43	.77
7NS2042	7	2.33	2.1	-1.15	.81	1.48	.84	1.43	.77
7NS2043	6	2	1.89	-.81	.75	4.18	3.01	4.18	3.02
7NS2044	6	2	1.89	-.81	.75	.13	-2.01	.13	-2.04
7NS2049	6	2	2.22	-1.36	.74	.71	-.32	.72	-.29
7NS2050	8	2.67	2.7	-2.5	1.06	.39	-.45	.34	-.42
7NS2051	6	2	1.74	-.57	.73	.92	.07	.91	.05
7NS2053	7	2.33	2.26	-1.42	.83	.36	-.95	.41	-.75
7NS2055	9	3	2.93	-4.04	1.84	1	0	1	0
7NS2056	8	2.67	2.74	-2.66	1.06	.52	-.23	.44	-.23
7NS2057	8	2.67	2.74	-2.66	1.06	.52	-.23	.44	-.23
7NS3001	9	3	2.93	-3.94	1.85	1	0	1	0
7NS3002	8	2.67	2.52	-1.97	1.05	.82	.16	.86	.21
7NS3005	9	3	2.89	-3.56	1.85	1	0	1	0
7NS3008	5	1.67	1.42	-.04	.73	1.29	.62	1.28	.6
7NS3010	9	3	2.93	-4.04	1.84	1	0	1	0

Note. Endorsability reported on logit scale, with higher values indicating a “harder” to endorse item.

Item	ScoreTot	Obs. Avg.	Adj. Avg.	Endorsability	S.E.	Fit Statistics InfitMS	InfitZ	OutfitMS	OutfitZ
7NS3011	8	2.67	2.7	-2.5	1.06	.39	-.45	.34	-.42
7NS3013	7	2.33	2.51	-1.95	.81	1.41	.75	1.32	.65
7NS3015	7	2.33	2.1	-1.15	.81	1.48	.84	1.43	.77
7NS3016	7	2.33	2.46	-1.82	.83	.71	-.21	.83	.03
7NS3019	8	2.67	2.77	-2.77	1.05	.57	-.15	.52	-.2
7NS3024	7	2.33	2.38	-1.65	.83	1.07	.34	.96	.2
7NS3025	7	2.33	2.26	-1.42	.83	1	.25	.91	.13
7NS3026	7	2.33	2.26	-1.42	.83	1	.25	.91	.13
7NS3027	7	2.33	2.46	-1.82	.83	.71	-.21	.83	.03
7NS3029	8	2.67	2.7	-2.5	1.06	.91	.25	.87	.26
7NS3031	7	2.33	2.46	-1.82	.83	.71	-.21	.83	.03
7NS3032	9	3	2.89	-3.56	1.85	1	0	1	0
7NS3033	7	2.33	2.26	-1.42	.83	2.45	1.67	2.6	1.74
7NS3034	8	2.67	2.77	-2.77	1.05	.72	.04	.68	.02
7NS3035	8	2.67	2.7	-2.5	1.06	.39	-.45	.34	-.42
7NS3041	8	2.67	2.7	-2.5	1.06	.39	-.45	.34	-.42
7NS3047	5	1.67	1.42	-.04	.73	1.36	.71	1.35	.69
7NS3048	8	2.67	2.77	-2.77	1.05	.57	-.15	.52	-.2
7NS3050	7	2.33	2.26	-1.42	.83	1	.25	.91	.13
7NS3052	5	1.67	1.42	-.04	.73	.42	-.92	.41	-.91
7NS3054	9	3	2.91	-3.78	1.85	1	0	1	0
7NS3056	8	2.67	2.77	-2.77	1.05	.57	-.15	.52	-.2
7NS3058	5	1.67	1.42	-.04	.73	.42	-.92	.41	-.91
7NS3059	9	3	2.93	-3.94	1.85	1	0	1	0
7RP1002	9	3	2.85	-3.23	1.85	1	0	1	0
7RP1004	9	3	2.89	-3.56	1.85	1	0	1	0
7RP1006	9	3	2.93	-3.94	1.85	1	0	1	0
7RP1008	9	3	2.91	-3.78	1.85	1	0	1	0
7RP1009	9	3	2.93	-4.04	1.84	1	0	1	0
7RP1012	9	3	2.91	-3.78	1.85	1	0	1	0
7RP1013	6	2	2.13	-1.2	.76	.52	-.67	.53	-.62
7RP1015	9	3	2.85	-3.23	1.85	1	0	1	0
7RP1017	9	3	2.91	-3.78	1.85	1	0	1	0

Note. Endorsability reported on logit scale, with higher values indicating a “harder” to endorse item.

						Fit Statistics			
Item	ScoreTot	Obs. Avg.	Adj. Avg.	Endorsability	S.E.	InfitMS	InfitZ	OutfitMS	OutfitZ
7RP1019	8	2.67	2.74	-2.66	1.06	.52	-.23	.44	-.23
7RP1022	9	3	2.91	-3.78	1.85	1	0	1	0
7RP1023	9	3	2.89	-3.56	1.85	1	0	1	0
7RP1024	9	3	2.93	-4.04	1.84	1	0	1	0
7RP1028	9	3	2.85	-3.23	1.85	1	0	1	0
7RP1029	9	3	2.89	-3.56	1.85	1	0	1	0
7RP1031	9	3	2.93	-4.04	1.84	1	0	1	0
7RP1037	8	2.67	2.74	-2.66	1.06	.52	-.23	.44	-.23
7RP1038	8	2.67	2.74	-2.66	1.06	.52	-.23	.44	-.23
7RP1039	9	3	2.89	-3.56	1.85	1	0	1	0
7RP1040	9	3	2.89	-3.56	1.85	1	0	1	0
7RP1042	7	2.33	2.51	-1.95	.81	1.69	1.05	1.62	.97
7RP1045	9	3	2.85	-3.23	1.85	1	0	1	0
7RP1047	9	3	2.93	-3.94	1.85	1	0	1	0
7RP1049	9	3	2.91	-3.78	1.85	1	0	1	0
7RP1050	9	3	2.91	-3.78	1.85	1	0	1	0
7RP1052	8	2.67	2.77	-2.77	1.05	.72	.04	.68	.02
7RP1054	6	2	1.74	-.57	.73	.92	.07	.91	.05
7RP1057	3	1	.91	1	.86	.09	-1.65	.09	-1.63
7RP1058	7	2.33	2.1	-1.15	.81	1.83	1.2	1.86	1.22
7RP1060	7	2.33	2.51	-1.95	.81	.66	-.32	.65	-.32
7RP2002	9	3	2.89	-3.56	1.85	1	0	1	0
7RP2003	8	2.67	2.77	-2.77	1.05	.57	-.15	.52	-.2
7RP2005	9	3	2.93	-3.94	1.85	1	0	1	0
7RP2006	9	3	2.91	-3.78	1.85	1	0	1	0
7RP2010	9	3	2.93	-3.94	1.85	1	0	1	0
7RP2011	7	2.33	2.38	-1.65	.83	.52	-.57	.61	-.33
7RP2013	9	3	2.93	-4.04	1.84	1	0	1	0
7RP2015	3	1	.82	1.2	.86	.01	-2.41	.01	-2.41
7RP2016	8	2.67	2.7	-2.5	1.06	.91	.25	.87	.26
7RP2020	7	2.33	2.51	-1.95	.81	.66	-.32	.65	-.32
7RP2021	4	1.33	1.12	.53	.78	.37	-.77	.37	-.79
7RP2023	7	2.33	2.46	-1.82	.83	1.33	.66	1.17	.47

Note. Endorsability reported on logit scale, with higher values indicating a “harder” to endorse item.

						Fit Statistics			
Item	ScoreTot	Obs. Avg.	Adj. Avg.	Endorsability	S.E.	InfitMS	InfitZ	OutfitMS	OutfitZ
7RP2024	7	2.33	2.46	-1.82	.83	.12	-1.88	.16	-1.48
7RP2026	9	3	2.93	-4.04	1.84	1	0	1	0
7RP2029	5	1.67	1.54	-.25	.75	1.22	.53	1.16	.45
7RP2031	7	2.33	2.46	-1.82	.83	1.33	.66	1.17	.47
7RP2032	8	2.67	2.52	-1.97	1.05	.61	-.1	.57	-.14
7RP2033	8	2.67	2.7	-2.5	1.06	.39	-.45	.34	-.42
7RP2035	7	2.33	2.1	-1.15	.81	.39	-.92	.41	-.88
7RP2040	8	2.67	2.52	-1.97	1.05	.61	-.1	.57	-.14
7RP2043	7	2.33	2.51	-1.95	.81	1.41	.75	1.32	.65
7RP2045	7	2.33	2.1	-1.15	.81	1.48	.84	1.43	.77
7RP2047	4	1.33	1.22	.33	.78	2.18	1.41	2.19	1.4
7RP2048	8	2.67	2.63	-2.27	1.06	.36	-.51	.32	-.47
7RP2049	7	2.33	2.26	-1.42	.83	.36	-.95	.41	-.75
7RP2053	8	2.67	2.7	-2.5	1.06	.39	-.45	.34	-.42
7RP2055	3	1	.91	1	.86	3.82	2.24	3.63	2.17
7RP2057	7	2.33	2.38	-1.65	.83	2.07	1.38	1.96	1.23
7RP2058	7	2.33	2.51	-1.95	.81	.24	-1.4	.27	-1.25
7RP2059	8	2.67	2.74	-2.66	1.06	.52	-.23	.44	-.23
7RP3004	9	3	2.93	-4.04	1.84	1	0	1	0
7RP3006	9	3	2.89	-3.56	1.85	1	0	1	0
7RP3007	9	3	2.93	-3.94	1.85	1	0	1	0
7RP3008	9	3	2.89	-3.56	1.85	1	0	1	0
7RP3009	7	2.33	2.26	-1.42	.83	2.39	1.63	2.48	1.65
7RP3011	9	3	2.89	-3.56	1.85	1	0	1	0
7RP3012	9	3	2.93	-4.04	1.84	1	0	1	0
7RP3014	8	2.67	2.77	-2.77	1.05	.57	-.15	.52	-.2
7RP3015	9	3	2.91	-3.78	1.85	1	0	1	0
7RP3017	8	2.67	2.77	-2.77	1.05	.57	-.15	.52	-.2
7RP3021	9	3	2.93	-3.94	1.85	1	0	1	0
7RP3023	9	3	2.89	-3.56	1.85	1	0	1	0
7RP3025	8	2.67	2.7	-2.5	1.06	.39	-.45	.34	-.42
7RP3027	9	3	2.85	-3.23	1.85	1	0	1	0
7RP3030	9	3	2.93	-3.94	1.85	1	0	1	0

Note. Endorsability reported on logit scale, with higher values indicating a “harder” to endorse item.

						Fit Statistics			
Item	ScoreTot	Obs. Avg.	Adj. Avg.	Endorsability	S.E.	InfitMS	InfitZ	OutfitMS	OutfitZ
7RP3031	9	3	2.93	-4.04	1.84	1	0	1	0
7RP3032	9	3	2.85	-3.23	1.85	1	0	1	0
7RP3036	6	2	2.03	-1.03	.76	3.7	2.7	3.54	2.59
7RP3037	7	2.33	2.26	-1.42	.83	1	.25	.91	.13
7RP3039	9	3	2.93	-3.94	1.85	1	0	1	0
7RP3041	8	2.67	2.7	-2.5	1.06	.39	-.45	.34	-.42
7RP3042	9	3	2.91	-3.78	1.85	1	0	1	0
7RP3045	8	2.67	2.74	-2.66	1.06	1.21	.53	1.93	1.02
7RP3048	9	3	2.85	-3.23	1.85	1	0	1	0
7RP3050	9	3	2.93	-3.94	1.85	1	0	1	0
7RP3051	2	.67	.52	2.02	.95	.69	-.19	.68	-.2
7RP3053	4	1.33	1.54	-.24	.78	.64	-.26	.66	-.22
7RP3057	8	2.67	2.52	-1.97	1.05	.61	-.1	.57	-.14
7RP3059	9	3	2.91	-3.78	1.85	1	0	1	0
7RP3060	9	3	2.85	-3.23	1.85	1	0	1	0
7SP1002	9	3	2.85	-3.23	1.85	1	0	1	0
7SP1004	9	3	2.89	-3.56	1.85	1	0	1	0
7SP1006	9	3	2.93	-4.04	1.84	1	0	1	0
7SP1008	7	2.33	2.46	-1.82	.83	.12	-1.88	.16	-1.48
7SP1011	9	3	2.93	-3.94	1.85	1	0	1	0
7SP1012	6	2	2.22	-1.36	.74	1.44	.84	1.49	.89
7SP1015	4	1.33	1.12	.53	.78	3.19	2.02	3.25	2.06
7SP1016	9	3	2.89	-3.56	1.85	1	0	1	0
7SP1018	9	3	2.91	-3.78	1.85	1	0	1	0
7SP1020	8	2.67	2.7	-2.5	1.06	.39	-.45	.34	-.42
7SP2001	8	2.67	2.74	-2.66	1.06	1.21	.53	1.93	1.02
7SP2003	9	3	2.93	-4.04	1.84	1	0	1	0
7SP2006	9	3	2.93	-4.04	1.84	1	0	1	0
7SP2008	7	2.33	2.1	-1.15	.81	.39	-.92	.41	-.88
7SP2009	9	3	2.91	-3.78	1.85	1	0	1	0
7SP2010	8	2.67	2.63	-2.27	1.06	1.08	.42	1.25	.58
7SP2011	8	2.67	2.7	-2.5	1.06	.39	-.45	.34	-.42
7SP2014	6	2	1.74	-.57	.73	1.26	.6	1.25	.59

Note. Endorsability reported on logit scale, with higher values indicating a “harder” to endorse item.

						Fit Statistics			
Item	ScoreTot	Obs. Avg.	Adj. Avg.	Endorsability	S.E.	InfitMS	InfitZ	OutfitMS	OutfitZ
7SP2015	7	2.33	2.1	-1.15	.81	1.83	1.2	1.86	1.22
7SP2018	8	2.67	2.74	-2.66	1.06	1.21	.53	1.93	1.02
7SP2020	8	2.67	2.63	-2.27	1.06	1.08	.42	1.25	.58
7SP3002	6	2	2.22	-1.36	.74	1.58	1	1.61	1.04
7SP3003	7	2.33	2.38	-1.65	.83	2.07	1.38	1.96	1.23
7SP3006	8	2.67	2.63	-2.27	1.06	.36	-.51	.32	-.47
7SP3007	8	2.67	2.63	-2.27	1.06	.36	-.51	.32	-.47
7SP3010	9	3	2.93	-4.04	1.84	1	0	1	0
7SP3012	7	2.33	2.46	-1.82	.83	1.63	.99	1.45	.77
7SP3013	7	2.33	2.1	-1.15	.81	1.83	1.2	1.86	1.22
7SP3016	7	2.33	2.38	-1.65	.83	2.07	1.38	1.96	1.23
7SP3017	8	2.67	2.74	-2.66	1.06	.68	-.01	.59	-.03
7SP3019	7	2.33	2.1	-1.15	.81	.39	-.92	.41	-.88
7SP4001	8	2.67	2.77	-2.77	1.05	.99	.33	1.19	.53
7SP4003	8	2.67	2.63	-2.27	1.06	1.08	.42	1.25	.58
7SP4005	8	2.67	2.63	-2.27	1.06	1.08	.42	1.25	.58
7SP4007	8	2.67	2.63	-2.27	1.06	1.05	.39	1.18	.53
7SP4009	9	3	2.93	-4.04	1.84	1	0	1	0
7SP4010	9	3	2.93	-3.94	1.85	1	0	1	0
7SP4013	7	2.33	2.38	-1.65	.83	2.07	1.38	1.96	1.23
7SP4015	9	3	2.93	-3.94	1.85	1	0	1	0
7SP4018	7	2.33	2.1	-1.15	.81	1.9	1.26	1.95	1.31
7SP4020	7	2.33	2.1	-1.15	.81	1.9	1.26	1.95	1.31
7SP4021	9	3	2.91	-3.78	1.85	1	0	1	0
7SP5003	7	2.33	2.51	-1.95	.81	.52	-.6	.54	-.53
7SP5004	7	2.33	2.46	-1.82	.83	1.63	.99	1.45	.77
7SP5005	7	2.33	2.1	-1.15	.81	1.83	1.2	1.86	1.22
7SP5006	9	3	2.89	-3.56	1.85	1	0	1	0
7SP5011	7	2.33	2.38	-1.65	.83	.2	-1.46	.24	-1.21
7SP5012	9	3	2.93	-3.94	1.85	1	0	1	0
7SP5013	8	2.67	2.77	-2.77	1.05	.57	-.15	.52	-.2
7SP5015	6	2	2.03	-1.03	.76	.94	.13	.93	.12
7SP5017	5	1.67	1.42	-.04	.73	.42	-.92	.41	-.91

Note. Endorsability reported on logit scale, with higher values indicating a “harder” to endorse item.

						Fit Statistics			
Item	ScoreTot	Obs. Avg.	Adj. Avg.	Endorsability	S.E.	InfitMS	InfitZ	OutfitMS	OutfitZ
7SP5019	9	3	2.93	-3.94	1.85	1	0	1	0
7SP5023	8	2.67	2.77	-2.77	1.05	.57	-.15	.52	-.2
7SP5024	6	2	1.89	-.81	.75	.61	-.47	.61	-.48
7SP6002	8	2.67	2.77	-2.77	1.05	.72	.04	.68	.02
7SP6003	9	3	2.93	-3.94	1.85	1	0	1	0
7SP6006	9	3	2.85	-3.23	1.85	1	0	1	0
7SP6007	9	3	2.85	-3.23	1.85	1	0	1	0
7SP6009	9	3	2.91	-3.78	1.85	1	0	1	0
7SP6011	9	3	2.93	-3.94	1.85	1	0	1	0
7SP6013	8	2.67	2.77	-2.77	1.05	.72	.04	.68	.02
7SP6015	9	3	2.89	-3.56	1.85	1	0	1	0
7SP6017	9	3	2.91	-3.78	1.85	1	0	1	0
7SP6018	8	2.67	2.52	-1.97	1.05	.82	.16	.86	.21
7SP6022	8	2.67	2.7	-2.5	1.06	.91	.25	.87	.26
7SP6024	7	2.33	2.26	-1.42	.83	2.39	1.63	2.48	1.65
7SP7001	9	3	2.89	-3.56	1.85	1	0	1	0
7SP7003	7	2.33	2.51	-1.95	.81	.52	-.6	.54	-.53
7SP7007	7	2.33	2.46	-1.82	.83	.86	.04	.94	.18
7SP7008	8	2.67	2.77	-2.77	1.05	.57	-.15	.52	-.2
7SP7011	9	3	2.91	-3.78	1.85	1	0	1	0
7SP7012	9	3	2.91	-3.78	1.85	1	0	1	0
7SP7014	9	3	2.93	-3.94	1.85	1	0	1	0
7SP7016	7	2.33	2.26	-1.42	.83	1	.25	.91	.13
7SP7019	9	3	2.85	-3.23	1.85	1	0	1	0
7SP7020	9	3	2.85	-3.23	1.85	1	0	1	0
7SP7021	8	2.67	2.74	-2.66	1.06	.68	-.01	.59	-.03
7SP7024	9	3	2.89	-3.56	1.85	1	0	1	0
7SP8001	9	3	2.93	-4.04	1.84	1	0	1	0
7SP8003	8	2.67	2.52	-1.97	1.05	.82	.16	.86	.21
7SP8006	8	2.67	2.77	-2.77	1.05	.72	.04	.68	.02
7SP8008	9	3	2.91	-3.78	1.85	1	0	1	0
7SP8010	5	1.67	1.54	-.25	.75	1.67	1.05	1.75	1.12
7SP8012	8	2.67	2.74	-2.66	1.06	.68	-.01	.59	-.03

Note. Endorsability reported on logit scale, with higher values indicating a “harder” to endorse item.

Item	ScoreTot	Obs. Avg.	Adj. Avg.	Endorsability	S.E.	Fit Statistics InfitMS	InfitZ	OutfitMS	OutfitZ
7SP8015	8	2.67	2.52	-1.97	1.05	.82	.16	.86	.21
7SP8016	7	2.33	2.46	-1.82	.83	1.63	.99	1.45	.77
7SP8018	9	3	2.91	-3.78	1.85	1	0	1	0
7SP8019	3	1	.91	1	.86	.09	-1.65	.09	-1.63
7SP8021	9	3	2.93	-4.04	1.84	1	0	1	0
7SP8022	9	3	2.91	-3.78	1.85	1	0	1	0
8EE1002	9	3	2.95	-4.31	1.86	1	0	1	0
8EE1004	8	2.67	2.9	-3.63	1.08	.46	-.35	.34	-.04
8EE1005	8	2.67	2.9	-3.61	1.08	.73	.04	.53	.29
8EE1007	9	3	2.95	-4.42	1.88	1	0	1	0
8EE1010	9	3	2.89	-3.55	1.86	1	0	1	0
8EE1012	9	3	2.95	-4.31	1.86	1	0	1	0
8EE1013	9	3	2.97	-4.91	1.85	1	0	1	0
8EE1014	7	2.33	2.76	-2.74	.86	1.08	.34	2.21	1.21
8EE1017	9	3	2.95	-4.42	1.88	1	0	1	0
8EE1020	9	3	2.89	-3.55	1.86	1	0	1	0
8EE1022	9	3	2.95	-4.31	1.86	1	0	1	0
8EE1024	9	3	2.97	-4.92	1.85	1	0	1	0
8EE2001	9	3	2.97	-4.91	1.85	1	0	1	0
8EE2004	9	3	2.95	-4.42	1.88	1	0	1	0
8EE2006	9	3	2.95	-4.31	1.86	1	0	1	0
8EE2008	9	3	2.89	-3.55	1.86	1	0	1	0
8EE2009	7	2.33	2.76	-2.74	.86	1.26	.57	.97	.32
8EE2012	7	2.33	2.75	-2.71	.87	.02	-2.67	.05	-1.21
8EE2015	6	2	1.79	-.65	.79	.41	-.83	.42	-.81
8EE2016	8	2.67	2.82	-3.03	1.16	.05	-1.54	.07	-.41
8EE2018	8	2.67	2.81	-2.99	1.1	.17	-1	.16	-.54
8EE2020	7	2.33	2.76	-2.74	.86	1.26	.57	.97	.32
8EE2022	9	3	2.95	-4.42	1.88	1	0	1	0
8EE2024	7	2.33	2.75	-2.71	.87	1.82	1.15	1.34	.66
8EE3003	8	2.67	2.81	-2.99	1.1	.17	-1	.16	-.54
8EE3004	9	3	2.89	-3.55	1.86	1	0	1	0
8EE3005	9	3	2.97	-4.92	1.85	1	0	1	0

Note. Endorsability reported on logit scale, with higher values indicating a “harder” to endorse item.

						Fit Statistics			
Item	ScoreTot	Obs. Avg.	Adj. Avg.	Endorsability	S.E.	InfitMS	InfitZ	OutfitMS	OutfitZ
8EE3006	7	2.33	2.75	-2.71	.87	1.27	.59	.94	.35
8EE3010	7	2.33	2.49	-1.91	.99	.32	-.63	.29	-.54
8EE3012	7	2.33	2.2	-1.33	.86	.71	-.14	.63	-.22
8EE3015	9	3	2.95	-4.31	1.86	1	0	1	0
8EE3016	5	1.67	2.23	-1.37	.83	.26	-1.01	.28	-.96
8EE3017	6	2	2.53	-1.99	.84	.28	-1.02	.27	-.79
8EE3018	7	2.33	2.49	-1.91	.99	.32	-.63	.29	-.54
8EE3023	7	2.33	2.2	-1.33	.86	.71	-.14	.63	-.22
8EE3024	9	3	2.95	-4.31	1.86	1	0	1	0
8EE4001	8	2.67	2.9	-3.63	1.08	.46	-.35	.34	-.04
8EE4004	7	2.33	2.75	-2.71	.87	1.27	.59	.94	.35
8EE4007	7	2.33	2.49	-1.91	.99	.32	-.63	.29	-.54
8EE4008	9	3	2.89	-3.55	1.86	1	0	1	0
8EE4010	9	3	2.95	-4.31	1.86	1	0	1	0
8EE4011	8	2.67	2.9	-3.63	1.08	.46	-.35	.34	-.04
8EE4013	9	3	2.95	-4.42	1.88	1	0	1	0
8EE4015	8	2.67	2.9	-3.61	1.08	.45	-.35	.33	.09
8EE4017	9	3	2.89	-3.55	1.86	1	0	1	0
8EE4019	9	3	2.95	-4.31	1.86	1	0	1	0
8EE4021	8	2.67	2.9	-3.61	1.08	.45	-.35	.33	.09
8EE4023	7	2.33	2.76	-2.74	.86	1.26	.57	.97	.32
8EE5001	6	2	1.79	-.65	.79	.35	-1.01	.34	-1.03
8EE5002	4	1.33	1.25	.27	.8	.59	-.48	.62	-.44
8EE5007	3	1	1.1	.57	.86	.3	-.93	.35	-.85
8EE5008	8	2.67	2.9	-3.63	1.08	.46	-.35	.34	-.04
8EE5011	7	2.33	2.49	-1.91	.99	.32	-.63	.29	-.54
8EE5012	6	2	2.53	-1.99	.84	2.86	1.84	2.27	1.3
8EE5014	7	2.33	2.2	-1.33	.86	.39	-.75	.47	-.51
8EE5015	8	2.67	2.81	-2.99	1.1	.17	-1	.16	-.54
8EE5017	5	1.67	2.23	-1.37	.83	.5	-.46	.49	-.48
8EE5019	6	2	2.53	-1.99	.84	.28	-1.02	.27	-.79
8EE5021	7	2.33	2.49	-1.91	.99	.32	-.63	.29	-.54
8EE5024	3	1	.82	1.2	.86	.68	-.14	.71	-.13

Note. Endorsability reported on logit scale, with higher values indicating a “harder” to endorse item.

						Fit Statistics			
Item	ScoreTot	Obs. Avg.	Adj. Avg.	Endorsability	S.E.	InfitMS	InfitZ	OutfitMS	OutfitZ
8EE6001	9	3	2.95	-4.31	1.86	1	0	1	0
8EE6003	6	2	2.55	-2.04	.82	2.76	1.82	2.29	1.39
8EE6007	7	2.33	2.49	-1.91	.99	.32	-.63	.29	-.54
8EE6008	9	3	2.97	-4.91	1.85	1	0	1	0
8EE6009	8	2.67	2.81	-2.99	1.1	.17	-1	.16	-.54
8EE6010	5	1.67	1.43	-.06	.76	1.27	.59	1.37	.71
8EE6015	6	2	2.55	-2.04	.82	.3	-1.02	.3	-.85
8EE6016	6	2	2.53	-1.99	.84	2.36	1.51	2.58	1.48
8EE6017	4	1.33	1.12	.53	.78	1.77	1.1	1.75	1.07
8EE6020	9	3	2.95	-4.42	1.88	1	0	1	0
8EE6023	5	1.67	2.23	-1.37	.83	.26	-1.01	.28	-.96
8EE6024	9	3	2.95	-4.31	1.86	1	0	1	0
8EE7001	8	2.67	2.9	-3.61	1.08	1.61	.85	7.79	2.23
8EE7002	8	2.67	2.82	-3.03	1.16	.05	-1.54	.07	-.41
8EE7004	9	3	2.89	-3.55	1.86	1	0	1	0
8EE7007	9	3	2.95	-4.31	1.86	1	0	1	0
8EE7009	8	2.67	2.9	-3.63	1.08	.46	-.35	.34	-.04
8EE7012	8	2.67	2.9	-3.61	1.08	.73	.04	.53	.29
8EE7013	9	3	2.95	-4.42	1.88	1	0	1	0
8EE7014	9	3	2.89	-3.55	1.86	1	0	1	0
8EE7016	8	2.67	2.81	-2.99	1.1	1.61	.85	2.81	1.36
8EE8002	7	2.33	2.76	-2.74	.86	1.26	.57	.97	.32
8EE8004	7	2.33	2.75	-2.71	.87	1.82	1.15	1.34	.66
8EE8006	9	3	2.95	-4.42	1.88	1	0	1	0
8EE8008	6	2	1.79	-.65	.79	.41	-.83	.42	-.81
8EE8010	9	3	2.95	-4.31	1.86	1	0	1	0
8EE8012	4	1.33	1.81	-.68	.83	1.18	.48	1.15	.45
8EE8013	7	2.33	2.75	-2.71	.87	1.82	1.15	1.34	.66
8EE8017	8	2.67	2.62	-2.24	1.09	1.35	.65	1.64	.85
8EE8018	8	2.67	2.82	-3.03	1.16	2.1	1.17	3.86	1.55
8G1001	7	2.33	2.55	-2.04	.89	.36	-.78	.4	-.56
8G1004	8	2.67	2.9	-3.63	1.08	.46	-.35	.34	-.04
8G1007	7	2.33	2.75	-2.71	.87	.02	-2.67	.05	-1.21

Note. Endorsability reported on logit scale, with higher values indicating a “harder” to endorse item.

Item	ScoreTot	Obs. Avg.	Adj. Avg.	Endorsability	S.E.	Fit Statistics			
						InfitMS	InfitZ	OutfitMS	OutfitZ
8G1009	2	.67	.74	1.4	.97	4.23	2.37	5.66	3.02
8G1012	8	2.67	2.62	-2.24	1.09	1.4	.69	1.86	.97
8G1013	5	1.67	2.17	-1.27	.86	.88	.15	.92	.2
8G1016	7	2.33	2.76	-2.74	.86	.03	-2.54	.06	-1.36
8G1019	6	2	1.79	-.65	.79	.41	-.83	.42	-.81
8G1020	8	2.67	2.82	-3.03	1.16	.05	-1.54	.07	-.41
8G1021	8	2.67	2.9	-3.63	1.08	.46	-.35	.34	-.04
8G1024	9	3	2.95	-4.31	1.86	1	0	1	0
8G2001	6	2	2.03	-1.04	.87	.34	-.79	.35	-.77
8G2003	9	3	2.97	-4.91	1.85	1	0	1	0
8G2006	7	2.33	2.55	-2.04	.89	3.23	2.01	3.02	1.77
8G2008	7	2.33	2.2	-1.33	.86	.71	-.14	.63	-.22
8G2009	6	2	2.55	-2.04	.82	.55	-.45	.49	-.44
8G2012	4	1.33	1.72	-.54	.85	.09	-1.87	.08	-1.85
8G2015	6	2	2.03	-1.04	.87	.34	-.79	.35	-.77
8G2016	7	2.33	2.2	-1.33	.86	.71	-.14	.63	-.22
8G2019	6	2	2.55	-2.04	.82	.3	-1.02	.3	-.85
8G2020	8	2.67	2.81	-2.99	1.1	.17	-1	.16	-.54
8G2021	9	3	2.97	-4.91	1.85	1	0	1	0
8G2022	7	2.33	2.49	-1.91	.99	.32	-.63	.29	-.54
8G3002	7	2.33	2.55	-2.04	.89	.63	-.25	.55	-.29
8G3003	8	2.67	2.62	-2.24	1.09	1.35	.65	1.64	.85
8G3005	7	2.33	2.75	-2.71	.87	1.27	.59	.94	.35
8G3007	9	3	2.97	-4.92	1.85	1	0	1	0
8G3009	7	2.33	2.2	-1.33	.86	3.06	1.97	3.17	1.94
8G3011	7	2.33	2.49	-1.91	.99	.32	-.63	.29	-.54
8G3013	9	3	2.97	-4.92	1.85	1	0	1	0
8G3016	7	2.33	2.55	-2.04	.89	.63	-.25	.55	-.29
8G3017	7	2.33	2.75	-2.71	.87	1.27	.59	.94	.35
8G3018	8	2.67	2.82	-3.03	1.16	.05	-1.54	.07	-.41
8G3021	9	3	2.89	-3.55	1.86	1	0	1	0
8G4001	7	2.33	2.55	-2.04	.89	.63	-.24	.9	.19
8G4004	8	2.67	2.9	-3.61	1.08	.73	.04	.53	.29

Note. Endorsability reported on logit scale, with higher values indicating a "harder" to endorse item.

						Fit Statistics			
Item	ScoreTot	Obs. Avg.	Adj. Avg.	Endorsability	S.E.	InfitMS	InfitZ	OutfitMS	OutfitZ
8G4005	7	2.33	2.76	-2.74	.86	1.79	1.12	1.37	.67
8G4007	9	3	2.95	-4.42	1.88	1	0	1	0
8G4010	6	2	1.79	-.65	.79	.41	-.83	.42	-.81
8G4012	9	3	2.95	-4.31	1.86	1	0	1	0
8G4014	9	3	2.97	-4.92	1.85	1	0	1	0
8G4017	9	3	2.95	-4.42	1.88	1	0	1	0
8G4018	9	3	2.97	-4.91	1.85	1	0	1	0
8G5002	6	2	1.79	-.65	.79	.41	-.83	.42	-.81
8G5003	8	2.67	2.81	-2.99	1.1	1.61	.85	2.81	1.36
8G5004	6	2	2.55	-2.04	.82	.55	-.45	.49	-.44
8G5007	6	2	2.53	-1.99	.84	.54	-.44	.46	-.39
8G5009	6	2	2.03	-1.04	.87	1.18	.49	1.16	.46
8G5010	9	3	2.89	-3.55	1.86	1	0	1	0
8G5013	7	2.33	2.76	-2.74	.86	.03	-2.54	.06	-1.36
8G5014	9	3	2.95	-4.31	1.86	1	0	1	0
8G5017	7	2.33	2.75	-2.71	.87	.02	-2.67	.05	-1.21
8G6002	5	1.67	1.6	-.35	.8	1.82	1.22	2.08	1.44
8G6004	9	3	2.89	-3.55	1.86	1	0	1	0
8G6006	5	1.67	1.83	-.71	.77	.03	-2.69	.03	-2.61
8G6009	7	2.33	2.76	-2.74	.86	1.26	.57	.97	.32
8G6011	6	2	2.03	-1.04	.87	.34	-.79	.35	-.77
8G6012	9	3	2.97	-4.91	1.85	1	0	1	0
8G6015	7	2.33	2.2	-1.33	.86	.39	-.75	.47	-.51
8G6017	4	1.33	1.46	-.11	.79	.61	-.38	.55	-.48
8G6018	6	2	2.55	-2.04	.82	.3	-1.02	.3	-.85
8G7002	9	3	2.97	-4.91	1.85	1	0	1	0
8G7003	8	2.67	2.82	-3.03	1.16	2.13	1.19	4.34	1.66
8G7006	9	3	2.89	-3.55	1.86	1	0	1	0
8G7008	9	3	2.97	-4.92	1.85	1	0	1	0
8G7009	9	3	2.95	-4.31	1.86	1	0	1	0
8G7012	9	3	2.97	-4.91	1.85	1	0	1	0
8G7013	9	3	2.89	-3.55	1.86	1	0	1	0
8G7015	9	3	2.95	-4.42	1.88	1	0	1	0

Note. Endorsability reported on logit scale, with higher values indicating a “harder” to endorse item.

Item	ScoreTot	Obs. Avg.	Adj. Avg.	Endorsability	S.E.	Fit Statistics InfitMS	InfitZ	OutfitMS	OutfitZ
8G7016	9	3	2.95	-4.31	1.86	1	0	1	0
8G8002	9	3	2.97	-4.92	1.85	1	0	1	0
8G8004	9	3	2.95	-4.42	1.88	1	0	1	0
8G8006	6	2	2.53	-1.99	.84	3.62	2.28	2.85	1.62
8G8009	9	3	2.89	-3.55	1.86	1	0	1	0
8G8010	7	2.33	2.55	-2.04	.89	.63	-.25	.55	-.29
8G8011	8	2.67	2.9	-3.63	1.08	.73	.04	.55	.18
8G8013	9	3	2.97	-4.91	1.85	1	0	1	0
8G8017	8	2.67	2.62	-2.24	1.09	1.4	.69	1.86	.97
8G8018	9	3	2.95	-4.42	1.88	1	0	1	0
8G9001	8	2.67	2.81	-2.99	1.1	.17	-1	.16	-.54
8G9003	5	1.67	2.23	-1.37	.83	.5	-.46	.49	-.48
8G9004	8	2.67	2.9	-3.61	1.08	.73	.04	.53	.29
8G9007	9	3	2.95	-4.42	1.88	1	0	1	0
8G9008	9	3	2.89	-3.55	1.86	1	0	1	0
8G9012	8	2.67	2.81	-2.99	1.1	.17	-1	.16	-.54
8G9015	9	3	2.97	-4.92	1.85	1	0	1	0
8G9016	8	2.67	2.9	-3.61	1.08	.73	.04	.53	.29
8G9017	9	3	2.95	-4.42	1.88	1	0	1	0
8G9019	9	3	2.89	-3.55	1.86	1	0	1	0
8NS1003	8	2.67	2.81	-2.99	1.1	.17	-1	.16	-.54
8NS1004	7	2.33	2.76	-2.74	.86	1.26	.57	.97	.32
8NS1005	6	2	2.53	-1.99	.84	.54	-.44	.46	-.39
8NS1006	5	1.67	1.6	-.35	.8	.07	-2.41	.09	-2.21
8NS1009	7	2.33	2.2	-1.33	.86	.71	-.14	.63	-.22
8NS1011	7	2.33	2.55	-2.04	.89	.63	-.24	.9	.19
8NS1012	7	2.33	2.76	-2.74	.86	1.26	.57	.97	.32
8NS1017	9	3	2.89	-3.55	1.86	1	0	1	0
8NS1019	9	3	2.89	-3.55	1.86	1	0	1	0
8NS1020	5	1.67	2.17	-1.27	.86	1.43	.72	1.35	.65
8NS1021	8	2.67	2.82	-3.03	1.16	.05	-1.54	.07	-.41
8NS1022	5	1.67	2.23	-1.37	.83	1.42	.72	1.39	.7
8NS1023	6	2	2.03	-1.04	.87	.42	-.62	.43	-.6

Note. Endorsability reported on logit scale, with higher values indicating a “harder” to endorse item.

Item	ScoreTot	Obs. Avg.	Adj. Avg.	Endorsability	S.E.	Fit Statistics InfitMS	InfitZ	OutfitMS	OutfitZ
8NS1025	9	3	2.95	-4.31	1.86	1	0	1	0
8NS1026	8	2.67	2.9	-3.61	1.08	.73	.04	.53	.29
8NS1034	6	2	2.55	-2.04	.82	.3	-1.02	.3	-.85
8NS1035	8	2.67	2.81	-2.99	1.1	.17	-1	.16	-.54
8NS1037	8	2.67	2.82	-3.03	1.16	.05	-1.54	.07	-.41
8NS1038	7	2.33	2.2	-1.33	.86	.71	-.14	.63	-.22
8NS1039	6	2	2.55	-2.04	.82	.3	-1.02	.3	-.85
8NS1040	7	2.33	2.75	-2.71	.87	1.27	.59	.94	.35
8NS1041	7	2.33	2.55	-2.04	.89	.63	-.25	.55	-.29
8NS1048	4	1.33	1.72	-.54	.85	.09	-1.87	.08	-1.85
8NS1049	5	1.67	1.43	-.06	.76	.01	-3.31	.01	-3.14
8NS1050	7	2.33	2.55	-2.04	.89	.63	-.25	.55	-.29
8NS1051	6	2	2.53	-1.99	.84	.54	-.44	.46	-.39
8NS1054	6	2	2.03	-1.04	.87	.42	-.62	.43	-.6
8NS1055	8	2.67	2.9	-3.63	1.08	.46	-.35	.34	-.04
8NS1057	9	3	2.89	-3.55	1.86	1	0	1	0
8NS1060	3	1	.92	.95	.86	.53	-.4	.8	0
8NS1062	5	1.67	2.23	-1.37	.83	.26	-1.01	.28	-.96
8NS1064	9	3	2.89	-3.55	1.86	1	0	1	0
8NS1065	9	3	2.95	-4.31	1.86	1	0	1	0
8NS1066	6	2	2.55	-2.04	.82	.55	-.45	.49	-.44
8NS1068	5	1.67	2.17	-1.27	.86	.88	.15	.92	.2
8NS1070	6	2	2.03	-1.04	.87	.42	-.62	.43	-.6
8NS1073	7	2.33	2.55	-2.04	.89	.63	-.25	.55	-.29
8NS1076	8	2.67	2.62	-2.24	1.09	.21	-.87	.19	-.58
8NS1080	8	2.67	2.82	-3.03	1.16	.05	-1.54	.07	-.41
8NS1081	6	2	2.55	-2.04	.82	.55	-.45	.49	-.44
8NS1083	8	2.67	2.9	-3.61	1.08	.73	.04	.53	.29
8NS1085	8	2.67	2.9	-3.61	1.08	.45	-.35	.33	.09
8NS1086	6	2	1.79	-.65	.79	.41	-.83	.42	-.81
8NS1089	7	2.33	2.49	-1.91	.99	.32	-.63	.29	-.54
8NS1090	8	2.67	2.81	-2.99	1.1	.17	-1	.16	-.54
8NS2002	9	3	2.97	-4.92	1.85	1	0	1	0

Note. Endorsability reported on logit scale, with higher values indicating a "harder" to endorse item.

						Fit Statistics			
Item	ScoreTot	Obs. Avg.	Adj. Avg.	Endorsability	S.E.	InfitMS	InfitZ	OutfitMS	OutfitZ
8NS2003	9	3	2.89	-3.55	1.86	1	0	1	0
8NS2004	9	3	2.95	-4.31	1.86	1	0	1	0
8NS2005	9	3	2.97	-4.91	1.85	1	0	1	0
8NS2008	7	2.33	2.76	-2.74	.86	.03	-2.54	.06	-1.36
8NS2010	9	3	2.95	-4.31	1.86	1	0	1	0
8NS2012	9	3	2.95	-4.42	1.88	1	0	1	0
8NS2015	9	3	2.97	-4.91	1.85	1	0	1	0
8NS2016	9	3	2.89	-3.55	1.86	1	0	1	0
8NS2017	9	3	2.89	-3.55	1.86	1	0	1	0
8NS2018	7	2.33	2.75	-2.71	.87	1.27	.59	.94	.35
8NS2020	8	2.67	2.82	-3.03	1.16	.05	-1.54	.07	-.41
8NS2024	9	3	2.95	-4.42	1.88	1	0	1	0
8NS2026	9	3	2.95	-4.31	1.86	1	0	1	0
8NS2027	8	2.67	2.9	-3.63	1.08	.73	.04	.55	.18
8NS2033	4	1.33	1.81	-.68	.83	1.01	.27	1	.27
8NS2034	9	3	2.89	-3.55	1.86	1	0	1	0
8NS2038	8	2.67	2.81	-2.99	1.1	.17	-1	.16	-.54
8NS2039	3	1	1.1	.57	.86	1.35	.65	1.32	.63
8NS2040	7	2.33	2.49	-1.91	.99	.32	-.63	.29	-.54
8NS2041	2	.67	.89	1.03	.98	.57	-.3	.69	-.17
8NS2042	3	1	1.38	.02	.86	1.85	1.17	1.65	.98
8NS2044	4	1.33	1.72	-.54	.85	.09	-1.87	.08	-1.85
8NS2048	8	2.67	2.62	-2.24	1.09	.21	-.87	.19	-.58
8NS2051	9	3	2.89	-3.55	1.86	1	0	1	0
8NS2053	9	3	2.95	-4.31	1.86	1	0	1	0
8NS2056	7	2.33	2.49	-1.91	.99	.32	-.63	.29	-.54
8NS2058	8	2.67	2.9	-3.63	1.08	.46	-.35	.34	-.04
8NS2059	8	2.67	2.82	-3.03	1.16	.05	-1.54	.07	-.41
8NS2060	8	2.67	2.9	-3.61	1.08	.73	.04	.53	.29
8NS2062	9	3	2.97	-4.92	1.85	1	0	1	0
8NS2063	8	2.67	2.82	-3.03	1.16	.05	-1.54	.07	-.41
8NS2065	5	1.67	2.17	-1.27	.86	.88	.15	.92	.2
8NS2067	8	2.67	2.81	-2.99	1.1	.17	-1	.16	-.54

Note. Endorsability reported on logit scale, with higher values indicating a “harder” to endorse item.

						Fit Statistics			
Item	ScoreTot	Obs. Avg.	Adj. Avg.	Endorsability	S.E.	InfitMS	InfitZ	OutfitMS	OutfitZ
8NS2070	7	2.33	2.76	-2.74	.86	1.26	.57	.97	.32
8NS2071	9	3	2.95	-4.31	1.86	1	0	1	0
8NS2073	9	3	2.97	-4.91	1.85	1	0	1	0
8NS2075	9	3	2.89	-3.55	1.86	1	0	1	0
8NS2080	5	1.67	1.83	-.71	.77	.83	-.03	.76	-.12
8NS2081	8	2.67	2.82	-3.03	1.16	.05	-1.54	.07	-.41
8NS2082	6	2	2.55	-2.04	.82	1.65	.96	1.72	.97
8NS2084	7	2.33	2.75	-2.71	.87	.02	-2.67	.05	-1.21
8NS2087	8	2.67	2.82	-3.03	1.16	.05	-1.54	.07	-.41
8NS2089	9	3	2.89	-3.55	1.86	1	0	1	0
8NS2090	9	3	2.89	-3.55	1.86	1	0	1	0
8SP1003	6	2	2.55	-2.04	.82	.3	-1.02	.3	-.85
8SP1005	9	3	2.95	-4.31	1.86	1	0	1	0
8SP1007	7	2.33	2.49	-1.91	.99	.93	.26	1.22	.55
8SP1008	6	2	2.53	-1.99	.84	.28	-1.02	.27	-.79
8SP1010	9	3	2.89	-3.55	1.86	1	0	1	0
8SP1012	5	1.67	2.17	-1.27	.86	.18	-1.18	.21	-1.09
8SP1013	9	3	2.95	-4.31	1.86	1	0	1	0
8SP1016	7	2.33	2.76	-2.74	.86	1.26	.57	.97	.32
8SP1020	8	2.67	2.81	-2.99	1.1	.17	-1	.16	-.54
8SP1021	9	3	2.89	-3.55	1.86	1	0	1	0
8SP1022	4	1.33	1.81	-.68	.83	1.8	1.1	1.78	1.07
8SP1023	6	2	2.03	-1.04	.87	.42	-.62	.43	-.6
8SP1026	7	2.33	2.75	-2.71	.87	1.27	.59	.94	.35
8SP1028	7	2.33	2.49	-1.91	.99	.32	-.63	.29	-.54
8SP1029	9	3	2.89	-3.55	1.86	1	0	1	0
8SP1032	5	1.67	2.23	-1.37	.83	.5	-.46	.49	-.48
8SP1035	8	2.67	2.81	-2.99	1.1	.17	-1	.16	-.54
8SP1036	6	2	2.53	-1.99	.84	.28	-1.02	.27	-.79
8SP1037	7	2.33	2.49	-1.91	.99	.32	-.63	.29	-.54
8SP1040	8	2.67	2.81	-2.99	1.1	.17	-1	.16	-.54
8SP1042	7	2.33	2.76	-2.74	.86	.03	-2.54	.06	-1.36
8SP1043	9	3	2.89	-3.55	1.86	1	0	1	0

Note. Endorsability reported on logit scale, with higher values indicating a “harder” to endorse item.

						Fit Statistics			
Item	ScoreTot	Obs. Avg.	Adj. Avg.	Endorsability	S.E.	InfitMS	InfitZ	OutfitMS	OutfitZ
8SP2004	7	2.33	2.75	-2.71	.87	.02	-2.67	.05	-1.21
8SP2005	6	2	1.79	-.65	.79	.49	-.65	.49	-.66
8SP2006	7	2.33	2.55	-2.04	.89	.63	-.25	.55	-.29
8SP2007	9	3	2.95	-4.42	1.88	1	0	1	0
8SP2010	9	3	2.97	-4.92	1.85	1	0	1	0
8SP2011	7	2.33	2.49	-1.91	.99	.88	.21	1.06	.42
8SP2014	7	2.33	2.75	-2.71	.87	.02	-2.67	.05	-1.21
8SP2015	6	2	1.79	-.65	.79	.49	-.65	.49	-.66
8SP2017	6	2	2.03	-1.04	.87	.34	-.79	.35	-.77
8SP2021	9	3	2.97	-4.91	1.85	1	0	1	0
8SP2023	4	1.33	1.81	-.68	.83	1.8	1.1	1.78	1.07
8SP2024	6	2	2.2	-1.33	.81	.62	-.34	.61	-.36
8SP2026	7	2.33	2.75	-2.71	.87	.02	-2.67	.05	-1.21
8SP2027	9	3	2.95	-4.31	1.86	1	0	1	0
8SP2029	6	2	1.79	-.65	.79	.41	-.83	.42	-.81
8SP2030	7	2.33	2.76	-2.74	.86	1.79	1.12	1.37	.67
8SP2032	7	2.33	2.49	-1.91	.99	.32	-.63	.29	-.54
8SP2036	9	3	2.95	-4.31	1.86	1	0	1	0
8SP2037	9	3	2.89	-3.55	1.86	1	0	1	0
8SP2039	9	3	2.95	-4.42	1.88	1	0	1	0
8SP2041	8	2.67	2.9	-3.63	1.08	.73	.04	.55	.18
8SP2042	8	2.67	2.9	-3.61	1.08	.45	-.35	.33	.09
8SP2043	9	3	2.89	-3.55	1.86	1	0	1	0
8SP3004	3	1	1.38	.02	.86	3.54	2.4	3.21	2.19
8SP3006	9	3	2.95	-4.31	1.86	1	0	1	0
8SP3007	8	2.67	2.9	-3.61	1.08	.45	-.35	.33	.09
8SP3008	7	2.33	2.76	-2.74	.86	1.34	.67	2.37	1.3
8SP3011	9	3	2.95	-4.31	1.86	1	0	1	0
8SP3013	8	2.67	2.82	-3.03	1.16	2.1	1.17	3.86	1.55
8SP3014	8	2.67	2.62	-2.24	1.09	1.35	.65	1.64	.85
8SP3015	6	2	2.53	-1.99	.84	.68	-.18	1.26	.57
8SP3016	3	1	.82	1.2	.86	1.75	1.01	1.61	.9
8SP3018	9	3	2.95	-4.42	1.88	1	0	1	0

Note. Endorsability reported on logit scale, with higher values indicating a "harder" to endorse item.

Item	ScoreTot	Obs. Avg.	Adj. Avg.	Endorsability	S.E.	Fit Statistics InfitMS	InfitZ	OutfitMS	OutfitZ
8SP3021	7	2.33	2.55	-2.04	.89	.36	-.78	.4	-.56
8SP3022	9	3	2.95	-4.42	1.88	1	0	1	0
8SP3026	9	3	2.97	-4.92	1.85	1	0	1	0
8SP3027	8	2.67	2.9	-3.61	1.08	.73	.04	.53	.29
8SP3029	8	2.67	2.62	-2.24	1.09	1.4	.69	1.86	.97
8SP3031	7	2.33	2.76	-2.74	.86	1.79	1.12	1.37	.67
8SP3032	9	3	2.95	-4.42	1.88	1	0	1	0
8SP3034	4	1.33	1.72	-.54	.85	2.22	1.43	2.18	1.38
8SP3035	8	2.67	2.81	-2.99	1.1	.17	-1	.16	-.54
8SP3039	5	1.67	1.43	-.06	.76	1.06	.32	1.12	.4
8SP3041	5	1.67	2.17	-1.27	.86	4.5	2.51	4.88	2.66
8SP3043	3	1	1.1	.57	.86	2.18	1.35	1.95	1.2
8SP3045	6	2	2.55	-2.04	.82	.3	-1.02	.3	-.85
8SP4003	8	2.67	2.82	-3.03	1.16	.05	-1.54	.07	-.41
8SP4005	7	2.33	2.76	-2.74	.86	.03	-2.54	.06	-1.36
8SP4006	8	2.67	2.81	-2.99	1.1	.17	-1	.16	-.54
8SP4007	9	3	2.89	-3.55	1.86	1	0	1	0
8SP4010	9	3	2.89	-3.55	1.86	1	0	1	0
8SP4013	7	2.33	2.49	-1.91	.99	.88	.21	1.06	.42
8SP4014	6	2	2.53	-1.99	.84	.68	-.18	1.26	.57
8SP4019	7	2.33	2.75	-2.71	.87	.02	-2.67	.05	-1.21
8SP4021	8	2.67	2.9	-3.63	1.08	.46	-.35	.34	-.04
8SP4022	8	2.67	2.82	-3.03	1.16	.05	-1.54	.07	-.41
8SP4025	9	3	2.89	-3.55	1.86	1	0	1	0
8SP4028	6	2	2.55	-2.04	.82	.55	-.45	.49	-.44
8SP4029	8	2.67	2.81	-2.99	1.1	.17	-1	.16	-.54
8SP4032	9	3	2.95	-4.31	1.86	1	0	1	0
8SP4035	5	1.67	2.17	-1.27	.86	.88	.15	.92	.2
8SP4036	7	2.33	2.49	-1.91	.99	.88	.21	1.06	.42
8SP4037	9	3	2.89	-3.55	1.86	1	0	1	0
8SP4039	8	2.67	2.82	-3.03	1.16	.05	-1.54	.07	-.41
8SP4040	6	2	2.55	-2.04	.82	.55	-.45	.49	-.44
8SP4041	7	2.33	2.75	-2.71	.87	1.18	.47	3.11	1.55

Note. Endorsability reported on logit scale, with higher values indicating a “harder” to endorse item.

						Fit Statistics			
Item	ScoreTot	Obs. Avg.	Adj. Avg.	Endorsability	S.E.	InfitMS	InfitZ	OutfitMS	OutfitZ
8SP4042	8	2.67	2.62	-2.24	1.09	1.35	.65	1.64	.85
8F1002	3	1	1.29	.2	.87	.79	-.09	.71	-.23
8F1003	7	2.33	2.76	-2.74	.86	1.79	1.12	1.37	.67
8F1004	6	2	2.2	-1.33	.81	3.32	2.21	3.49	2.3
8F1008	9	3	2.89	-3.55	1.86	1	0	1	0
8F1011	9	3	2.95	-4.42	1.88	1	0	1	0
8F1012	9	3	2.95	-4.31	1.86	1	0	1	0
8F1013	9	3	2.95	-4.42	1.88	1	0	1	0
8F1016	5	1.67	2.17	-1.27	.86	1.86	1.08	1.7	.95
8F1018	4	1.33	1.81	-.68	.83	.03	-2.43	.03	-2.34
8F1019	9	3	2.95	-4.31	1.86	1	0	1	0
8F1022	7	2.33	2.2	-1.33	.86	.71	-.14	.63	-.22
8F1024	6	2	2.55	-2.04	.82	.55	-.45	.49	-.44
8F1025	8	2.67	2.82	-3.03	1.16	2.1	1.17	3.86	1.55
8F1029	9	3	2.97	-4.91	1.85	1	0	1	0
8F1030	9	3	2.89	-3.55	1.86	1	0	1	0
8F1031	8	2.67	2.9	-3.63	1.08	.46	-.35	.34	-.04
8F1034	9	3	2.95	-4.31	1.86	1	0	1	0
8F1035	2	.67	.89	1.03	.98	.71	-.08	.96	.21
8F2002	9	3	2.95	-4.42	1.88	1	0	1	0
8F2005	8	2.67	2.62	-2.24	1.09	1.4	.69	1.86	.97
8F2006	9	3	2.95	-4.31	1.86	1	0	1	0
8F2008	9	3	2.97	-4.92	1.85	1	0	1	0
8F2009	8	2.67	2.82	-3.03	1.16	2.13	1.19	4.34	1.66
8F2010	9	3	2.97	-4.91	1.85	1	0	1	0
8F2013	9	3	2.97	-4.92	1.85	1	0	1	0
8F2017	9	3	2.95	-4.31	1.86	1	0	1	0
8F2018	9	3	2.89	-3.55	1.86	1	0	1	0
8F2019	9	3	2.89	-3.55	1.86	1	0	1	0
8F2020	8	2.67	2.9	-3.61	1.08	.73	.04	.53	.29
8F2022	9	3	2.95	-4.42	1.88	1	0	1	0
8F2026	9	3	2.97	-4.92	1.85	1	0	1	0
8F2029	9	3	2.97	-4.91	1.85	1	0	1	0

Note. Endorsability reported on logit scale, with higher values indicating a “harder” to endorse item.

Item	ScoreTot	Obs. Avg.	Adj. Avg.	Endorsability	S.E.	Fit Statistics InfitMS	InfitZ	OutfitMS	OutfitZ
8F2030	8	2.67	2.81	-2.99	1.1	.17	-1	.16	-.54
8F2034	5	1.67	1.43	-.06	.76	.98	.2	1.04	.29
8F2035	9	3	2.95	-4.31	1.86	1	0	1	0
8F2036	8	2.67	2.82	-3.03	1.16	2.13	1.19	4.34	1.66
8F3002	5	1.67	2.23	-1.37	.83	.26	-1.01	.28	-.96
8F3004	8	2.67	2.82	-3.03	1.16	.05	-1.54	.07	-.41
8F3006	7	2.33	2.75	-2.71	.87	1.45	.78	3.28	1.62
8F3008	8	2.67	2.62	-2.24	1.09	1.4	.69	1.86	.97
8F3010	8	2.67	2.81	-2.99	1.1	1.61	.85	2.81	1.36
8F3012	4	1.33	1.81	-.68	.83	4.77	2.91	4.42	2.67
8F3013	8	2.67	2.82	-3.03	1.16	.05	-1.54	.07	-.41
8F3016	9	3	2.89	-3.55	1.86	1	0	1	0
8F3018	5	1.67	2.17	-1.27	.86	.88	.15	.92	.2
8F3019	7	2.33	2.76	-2.74	.86	.03	-2.54	.06	-1.36
8F3020	8	2.67	2.81	-2.99	1.1	.17	-1	.16	-.54
8F3024	5	1.67	2.17	-1.27	.86	.18	-1.18	.21	-1.09
8F3025	7	2.33	2.49	-1.91	.99	.32	-.63	.29	-.54
8F3029	7	2.33	2.55	-2.04	.89	.63	-.25	.55	-.29
8F3030	9	3	2.89	-3.55	1.86	1	0	1	0
8F3032	6	2	2.55	-2.04	.82	2.14	1.38	2.15	1.29
8F3033	7	2.33	2.49	-1.91	.99	.32	-.63	.29	-.54
8F3035	8	2.67	2.9	-3.61	1.08	.73	.04	.53	.29
8F4001	7	2.33	2.76	-2.74	.86	.03	-2.54	.06	-1.36
8F4003	8	2.67	2.62	-2.24	1.09	.21	-.87	.19	-.58
8F4004	7	2.33	2.55	-2.04	.89	.63	-.25	.55	-.29
8F4008	8	2.67	2.62	-2.24	1.09	1.4	.69	1.86	.97
8F4010	5	1.67	2.17	-1.27	.86	.18	-1.18	.21	-1.09
8F4012	8	2.67	2.82	-3.03	1.16	.05	-1.54	.07	-.41
8F4013	8	2.67	2.9	-3.63	1.08	.46	-.35	.34	-.04
8F4015	5	1.67	2.17	-1.27	.86	.18	-1.18	.21	-1.09
8F4016	8	2.67	2.81	-2.99	1.1	1.61	.85	2.81	1.36
8F4020	9	3	2.89	-3.55	1.86	1	0	1	0
8F4023	7	2.33	2.55	-2.04	.89	.63	-.25	.55	-.29

Note. Endorsability reported on logit scale, with higher values indicating a “harder” to endorse item.

						Fit Statistics			
Item	ScoreTot	Obs. Avg.	Adj. Avg.	Endorsability	S.E.	InfitMS	InfitZ	OutfitMS	OutfitZ
8F4024	7	2.33	2.49	-1.91	.99	.32	-.63	.29	-.54
8F4025	8	2.67	2.9	-3.63	1.08	.46	-.35	.34	-.04
8F4027	7	2.33	2.49	-1.91	.99	.88	.21	1.06	.42
8F4029	8	2.67	2.9	-3.61	1.08	.73	.04	.53	.29
8F4034	5	1.67	2.23	-1.37	.83	.26	-1.01	.28	-.96
8F4035	5	1.67	1.43	-.06	.76	1.25	.57	1.15	.44
8F4036	3	1	1.1	.57	.86	3.05	1.9	3.44	2.18
8F5001	8	2.67	2.9	-3.61	1.08	.45	-.35	.33	.09
8F5002	9	3	2.89	-3.55	1.86	1	0	1	0
8F5003	8	2.67	2.82	-3.03	1.16	.05	-1.54	.07	-.41
8F5007	9	3	2.95	-4.31	1.86	1	0	1	0
8F5010	7	2.33	2.75	-2.71	.87	.02	-2.67	.05	-1.21
8F5012	8	2.67	2.9	-3.63	1.08	.46	-.35	.34	-.04
8F5014	5	1.67	1.83	-.71	.77	.83	-.03	.76	-.12
8F5015	9	3	2.89	-3.55	1.86	1	0	1	0
8F5018	6	2	2.03	-1.04	.87	.34	-.79	.35	-.77
8F5019	7	2.33	2.49	-1.91	.99	.32	-.63	.29	-.54
8F5023	8	2.67	2.9	-3.63	1.08	.46	-.35	.34	-.04
8F5024	7	2.33	2.75	-2.71	.87	.02	-2.67	.05	-1.21
8F5027	8	2.67	2.81	-2.99	1.1	1.42	.7	1.57	.81
8F5029	9	3	2.89	-3.55	1.86	1	0	1	0
8F5030	9	3	2.97	-4.92	1.85	1	0	1	0
8F5033	8	2.67	2.62	-2.24	1.09	.21	-.87	.19	-.58
8F5034	6	2	2.53	-1.99	.84	.54	-.44	.46	-.39
8F5036	7	2.33	2.49	-1.91	.99	.32	-.63	.29	-.54

Note. Endorsability reported on logit scale, with higher values indicating a “harder” to endorse item.

Appendix C

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6EE1004	6	Apply and extend previous understandings of arithmetic to algebraic expressions.	Write and evaluate numerical expressions involving whole-number exponents.	3		3		3	
6EE1011	6	Apply and extend previous understandings of arithmetic to algebraic expressions.	Write and evaluate numerical expressions involving whole-number exponents.	3		3		3	
6EE1024	6	Apply and extend previous understandings of arithmetic to algebraic expressions.	Write and evaluate numerical expressions involving whole-number exponents.	3		3		3	
6EE2008	6	Apply and extend previous understandings of arithmetic to algebraic expressions.	Write, read, and evaluate expressions in which letters stand for numbers.	3		3		3	
6EE2019	6	Apply and extend previous understandings of arithmetic to algebraic expressions.	Write, read, and evaluate expressions in which letters stand for numbers.	3		3		3	
6EE3001	6	Apply and extend previous understandings of arithmetic to algebraic expressions.	Apply the properties of operations to generate equivalent expressions. For example, apply the distributive property to the expression 3 (2 + x) to produce the equivalent expression 6 + 3x; apply the distributive property to the expression 24x + 18y to produce the equivalent expression 6 (4x + 3y); apply properties of operations to y + y + y to produce the	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6EE3016	6	Apply and extend previous understandings of arithmetic to algebraic expressions.	Apply the properties of operations to generate equivalent expressions. For example, apply the distributive property to the expression 3 (2 + x) to produce the equivalent expression 6 + 3x; apply the distributive property to the expression 24x + 18y to produce the equivalent expression 6 (4x + 3y); apply properties of operations to y + y + y to produce the	3		3		3	
6EE3024	6	Apply and extend previous understandings of arithmetic to algebraic expressions.	Apply the properties of operations to generate equivalent expressions. For example, apply the distributive property to the expression 3 (2 + x) to produce the equivalent expression 6 + 3x; apply the distributive property to the expression 24x + 18y to produce the equivalent expression 6 (4x + 3y); apply properties of operations to y + y + y to produce the	3		3		3	
6EE4010	6	Apply and extend previous understandings of arithmetic to algebraic expressions.	Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them). For example, the expressions y + y + y and 3y are equivalent because they name the same	3		3		3	
6EE5003	6	Reason about and solve one-variable equations and inequalities.	Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an	3		2		1	No

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6EE5011	6	Reason about and solve one-variable equations and inequalities.	Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an	3		3		1	Yes
6EE6005	6	Reason about and solve one-variable equations and inequalities.	Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the	3		3		3	
6EE6014	6	Reason about and solve one-variable equations and inequalities.	Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the	3		3		3	
6EE7005	6	Reason about and solve one-variable equations and inequalities.	Solve real-world and mathematical problems by writing and solving equations of the form $x + p = q$ and $px = q$ for cases in which p, q and	2		3		3	
6EE7013	6	Reason about and solve one-variable equations and inequalities.	Solve real-world and mathematical problems by writing and solving equations of the form $x + p = q$ and $px = q$ for cases in which p, q and	2		2		3	
6EE8008	6	Reason about and solve one-variable equations and inequalities.	Write an inequality of the form $x > c$ or $x < c$ to represent a constraint or condition in a real-world or mathematical problem. Recognize that inequalities of the form $x > c$ or $x < c$ have infinitely many solutions; represent solutions of such inequalities on	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6EE8017	6	Reason about and solve one-variable equations and inequalities.	Write an inequality of the form x > c or x < c to represent a constraint or condition in a real-world or mathematical problem. Recognize that inequalities of the form x > c or x < c have infinitely many solutions; represent solutions of such inequalities on	3		3		3	
6EE9009	6	Represent and analyze quantitative relationships between dependent and independent variables.	Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. For example, in a problem involving motion at constant speed, list and graph ordered pairs	2		3		1	Yes
6G1007	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical	3		3		3	
6G1015	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6G1023	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical	3		2		2	
6G1037	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical	3		2		0	No
6G1038	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical	3		2		3	
6G2003	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas V = l w h and V = b h to find volumes of right rectangular prisms with fractional edge lengths in the	2		2		1	Yes

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6G2017	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas V = l w h and V = b h to find volumes of right rectangular prisms with fractional edge lengths in the	3		3		3	
6G2028	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas V = l w h and V = b h to find volumes of right rectangular prisms with fractional edge lengths in the	2		2		1	Yes
6G2043	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas V = l w h and V = b h to find volumes of right rectangular prisms with fractional edge lengths in the	2		3		2	
6G3007	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world	3		2		2	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6G3013	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world	3		1	Yes	3	
6G3027	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world	3		3		3	
6G3034	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world	3		1	Yes	3	
6G3046	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world	3		3		1	Yes
6G4008	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world	3		3		3	
6G4017	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6G4028	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world	2		3		1	Yes
6G4038	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world	3		3		3	
6NS1001	6	Apply and extend previous understandings of multiplication and division to divide fractions by fractions.	Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem. For example, create a story context for (2/3) ÷ (3/4) and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that (2/3) ÷ (3/4) = 8/9 because 3/4 of 8/9 is 2/3. (In general, (a/b) ÷ (c/d) = ad/bc.) How much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 3/4-cup	3		3		1	Yes

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6NS1012	6	Apply and extend previous understandings of multiplication and division to divide fractions by fractions.	Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem. For example, create a story context for (2/3) ÷ (3/4) and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that (2/3) ÷ (3/4) = 8/9 because 3/4 of 8/9 is 2/3. (In general, (a/b) ÷ (c/d) = ad/bc.) How much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 3/4-cup	3		3		3	
6NS1021	6	Apply and extend previous understandings of multiplication and division to divide fractions by fractions.	Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem. For example, create a story context for (2/3) ÷ (3/4) and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that (2/3) ÷ (3/4) = 8/9 because 3/4 of 8/9 is 2/3. (In general, (a/b) ÷ (c/d) = ad/bc.) How much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 3/4-cup	3		3		2	
6NS2006	6	Compute fluently with multi-digit numbers and find common factors	Fluently divide multi-digit numbers using the standard algorithm.	3		3		3	
6NS2018	6	Compute fluently with multi-digit numbers and find common factors	Fluently divide multi-digit numbers using the standard algorithm.	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6NS3006	6	Compute fluently with multi-digit numbers and find common factors	Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.	3		3		3	
6NS3013	6	Compute fluently with multi-digit numbers and find common factors	Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.	3		3		3	
6NS4002	6	Compute fluently with multi-digit numbers and find common factors and multiples.	Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1?100 with a common factor as a multiple of a sum of two whole numbers with no	3		3		3	
6NS4013	6	Compute fluently with multi-digit numbers and find common factors and multiples.	Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1?100 with a common factor as a multiple of a sum of two whole numbers with no	3		3		3	
6NS4021	6	Compute fluently with multi-digit numbers and find common factors and multiples.	Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1?100 with a common factor as a multiple of a sum of two whole numbers with no	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6NS5009	6	Apply and extend previous understandings of numbers to the system of rational numbers.	Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts,	1	No	3		3	
6NS5017	6	Apply and extend previous understandings of numbers to the system of rational numbers.	Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts,	1	No	3		3	
6NS6007	6	Apply and extend previous understandings of numbers to the system of rational numbers.	Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative	2		3		3	
6NS6013	6	Apply and extend previous understandings of numbers to the system of rational numbers.	Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative	2		3		3	
6NS7001	6	Apply and extend previous understandings of numbers to the system of rational numbers.	Understand ordering and absolute value of rational numbers.	3		3		1	Yes

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6NS7012	6	Apply and extend previous understandings of numbers to the system of rational numbers.	Understand ordering and absolute value of rational numbers.	3		3		1	Yes
6NS8001	6	Apply and extend previous understandings of numbers to the system of rational numbers.	Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.	3		3		3	
6NS8012	6	Apply and extend previous understandings of numbers to the system of rational numbers.	Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.	3		3		3	
6RP1002	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. For example, ?The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak.? ?For every vote candidate A received,	3		3		3	
6RP1013	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. For example, ?The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak.? ?For every vote candidate A received,	3		3		2	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6RP1029	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. For example, ?The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak.? ?For every vote candidate A received,	3		3		2	
6RP1037	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. For example, ?The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak.? ?For every vote candidate A received,	3		3		2	
6RP1050	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. For example, ?The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak.? ?For every vote candidate A received,	3		3		2	
6RP1056	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. For example, ?The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak.? ?For every vote candidate A received,	3		3		2	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6RP2008	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a unit rate a/b associated with a ratio a:b with b ? 0, and use rate language in the context of a ratio relationship. For example, ?This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar.? ?We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger.? Expectations for unit rates in this	3		2		3	
6RP2014	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a unit rate a/b associated with a ratio a:b with b ? 0, and use rate language in the context of a ratio relationship. For example, ?This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar.? ?We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger.? Expectations for unit rates in this	3		3		3	
6RP2028	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a unit rate a/b associated with a ratio a:b with b ? 0, and use rate language in the context of a ratio relationship. For example, ?This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar.? ?We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger.? Expectations for unit rates in this	3		3		3	
6RP2036	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a unit rate a/b associated with a ratio a:b with b ? 0, and use rate language in the context of a ratio relationship. For example, ?This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar.? ?We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger.? Expectations for unit rates in this	0	No	3		2	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6RP2045	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a unit rate a/b associated with a ratio a:b with b ? 0, and use rate language in the context of a ratio relationship. For example, ?This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar.? ?We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger.? Expectations for unit rates in this	3		3		3	
6RP2058	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a unit rate a/b associated with a ratio a:b with b ? 0, and use rate language in the context of a ratio relationship. For example, ?This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar.? ?We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger.? Expectations for unit rates in this	3		3		3	
6RP3010	6	Understand ratio concepts and use ratio reasoning to solve problems.	Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or	3		3		3	
6RP3014	6	Understand ratio concepts and use ratio reasoning to solve problems.	Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or	3		2		1	Yes
6RP3025	6	Understand ratio concepts and use ratio reasoning to solve problems.	Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or	3		3		3	
6RP3040	6	Understand ratio concepts and use ratio reasoning to solve problems.	Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6RP3049	6	Understand ratio concepts and use ratio reasoning to solve problems.	Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or	3		3		3	
6RP3053	6	Understand ratio concepts and use ratio reasoning to solve problems.	Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or	1	Yes	3		1	Yes
6SP1002	6	Develop understanding of statistical variability.	Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. For example, ?How old am I?? is not a statistical question, but ?How old are the students in my school?? is a statistical question because one anticipates	3		3		3	
6SP1007	6	Develop understanding of statistical variability.	Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. For example, ?How old am I?? is not a statistical question, but ?How old are the students in my school?? is a statistical question because one anticipates	3		3		3	
6SP1022	6	Develop understanding of statistical variability.	Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. For example, ?How old am I?? is not a statistical question, but ?How old are the students in my school?? is a statistical question because one anticipates	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6SP1032	6	Develop understanding of statistical variability.	Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. For example, ?How old am I?? is not a statistical question, but ?How old are the students in my school?? is a statistical question because one anticipates	3		3		3	
6SP2005	6	Develop understanding of statistical variability.	Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and	1	Yes	2		0	Yes
6SP2017	6	Develop understanding of statistical variability.	Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and	1	Yes	1	Yes	0	No
6SP2027	6	Develop understanding of statistical variability.	Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and	1	Yes	2		0	Yes
6SP2034	6	Develop understanding of statistical variability.	Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and	2		2		3	
6SP3008	6	Develop understanding of statistical variability.	Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a	1	Yes	1	Yes	1	Yes
6SP3022	6	Develop understanding of statistical variability.	Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a	1	Yes	1	Yes	1	Yes
6SP3029	6	Develop understanding of statistical variability.	Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a	1	Yes	2		1	Yes

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6SP4002	6	Summarize and describe distributions.	Display numerical data in plots on a number line, including dot plots, histograms, and box plots.	1	No	2		3	
6SP4016	6	Summarize and describe distributions.	Display numerical data in plots on a number line, including dot plots, histograms, and box plots.	2		1	Yes	0	No
6SP4023	6	Summarize and describe distributions.	Display numerical data in plots on a number line, including dot plots, histograms, and box plots.	2		3		2	
6SP4036	6	Summarize and describe distributions.	Display numerical data in plots on a number line, including dot plots, histograms, and box plots.	1	No	3		3	
6SP5007	6	Summarize and describe distributions.	Summarize numerical data sets in relation to their context, such as by: a. Reporting the number of observations. b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement. c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.	3		3		0	Yes

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6SP5013	6	Summarize and describe distributions.	Summarize numerical data sets in relation to their context, such as by: a. Reporting the number of observations. b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement. c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.	3		3		3	
6SP5028	6	Summarize and describe distributions.	Summarize numerical data sets in relation to their context, such as by: a. Reporting the number of observations. b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement. c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.	3		3		3	
6EE1003	6	Apply and extend previous understandings of arithmetic to algebraic expressions.	Write and evaluate numerical expressions involving whole-number exponents.	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6EE1013	6	Apply and extend previous understandings of arithmetic to algebraic expressions.	Write and evaluate numerical expressions involving whole-number exponents.	3		3		3	
6EE1023	6	Apply and extend previous understandings of arithmetic to algebraic expressions.	Write and evaluate numerical expressions involving whole-number exponents.	3		3		3	
6EE2012	6	Apply and extend previous understandings of arithmetic to algebraic expressions.	Write, read, and evaluate expressions in which letters stand for numbers.	3		3		3	
6EE2017	6	Apply and extend previous understandings of arithmetic to algebraic expressions.	Write, read, and evaluate expressions in which letters stand for numbers.	3		3		3	
6EE3006	6	Apply and extend previous understandings of arithmetic to algebraic expressions.	Apply the properties of operations to generate equivalent expressions. For example, apply the distributive property to the expression 3 (2 + x) to produce the equivalent expression 6 + 3x; apply the distributive property to the expression 24x + 18y to produce the equivalent expression 6 (4x + 3y); apply properties of operations to y + y + y to produce the	3		3		3	
6EE3014	6	Apply and extend previous understandings of arithmetic to algebraic expressions.	Apply the properties of operations to generate equivalent expressions. For example, apply the distributive property to the expression 3 (2 + x) to produce the equivalent expression 6 + 3x; apply the distributive property to the expression 24x + 18y to produce the equivalent expression 6 (4x + 3y); apply properties of operations to y + y + y to produce the	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6EE4001	6	Apply and extend previous understandings of arithmetic to algebraic expressions.	Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them). For example, the expressions y + y + y and 3y are equivalent because they name the same	1	Yes	0	No	2	
6EE4012	6	Apply and extend previous understandings of arithmetic to algebraic expressions.	Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them). For example, the expressions y + y + y and 3y are equivalent because they name the same	3		3		3	
6EE5002	6	Reason about and solve one-variable equations and inequalities.	Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an	3		3		3	
6EE5015	6	Reason about and solve one-variable equations and inequalities.	Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an	3		3		3	
6EE6006	6	Reason about and solve one-variable equations and inequalities.	Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the	3		3		2	
6EE6016	6	Reason about and solve one-variable equations and inequalities.	Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the	3		3		2	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6EE7007	6	Reason about and solve one-variable equations and inequalities.	Solve real-world and mathematical problems by writing and solving equations of the form x + p = q and px = q for cases in which p, q and	1	Yes	0	No	2	
6EE7016	6	Reason about and solve one-variable equations and inequalities.	Solve real-world and mathematical problems by writing and solving equations of the form x + p = q and px = q for cases in which p, q and	1	Yes	3		3	
6EE8012	6	Reason about and solve one-variable equations and inequalities.	Write an inequality of the form x > c or x < c to represent a constraint or condition in a real-world or mathematical problem. Recognize that inequalities of the form x > c or x < c have infinitely many solutions; represent solutions of such inequalities on	3		1	Yes	3	
6EE9002	6	Represent and analyze quantitative relationships between dependent and independent variables.	Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. For example, in a problem involving motion at constant speed, list and graph ordered pairs	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6EE9010	6	Represent and analyze quantitative relationships between dependent and independent variables.	Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. For example, in a problem involving motion at constant speed, list and graph ordered pairs	3		3		2	
6G1006	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical	3		2		2	
6G1009	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical	3		1	Yes	2	
6G1027	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical	3		3		2	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6G1034	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical	0	No	0	No	1	Yes
6G1039	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical	3		3		3	
6G2016	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas V = l w h and V = b h to find volumes of right rectangular prisms with fractional edge lengths in the	3		3		2	
6G2023	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas V = l w h and V = b h to find volumes of right rectangular prisms with fractional edge lengths in the	3		3		2	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6G2035	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas V = l w h and V = b h to find volumes of right rectangular prisms with fractional edge lengths in the	3		3		2	
6G2040	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas V = l w h and V = b h to find volumes of right rectangular prisms with fractional edge lengths in the	3		3		2	
6G3006	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world	3		1	Yes	2	
6G3008	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world	3		3		2	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6G3028	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world	3		3		2	
6G3036	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world	3		3		2	
6G3044	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world	1	Yes	2		3	
6G4014	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world	3		3		3	
6G4015	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world	3		3		3	
6G4032	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6G4042	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world	3		2		1	Yes
6NS1002	6	Apply and extend previous understandings of multiplication and division to divide fractions by fractions.	Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem. For example, create a story context for (2/3) ÷ (3/4) and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that (2/3) ÷ (3/4) = 8/9 because 3/4 of 8/9 is 2/3. (In general, (a/b) ÷ (c/d) = ad/bc.) How much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 3/4-cup	3		3		3	
6NS1013	6	Apply and extend previous understandings of multiplication and division to divide fractions by fractions.	Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem. For example, create a story context for (2/3) ÷ (3/4) and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that (2/3) ÷ (3/4) = 8/9 because 3/4 of 8/9 is 2/3. (In general, (a/b) ÷ (c/d) = ad/bc.) How much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 3/4-cup	0	Yes	0	Yes	3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6NS1024	6	Apply and extend previous understandings of multiplication and division to divide fractions by fractions.	Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem. For example, create a story context for (2/3) ÷ (3/4) and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that (2/3) ÷ (3/4) = 8/9 because 3/4 of 8/9 is 2/3. (In general, (a/b) ÷ (c/d) = ad/bc.) How much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 3/4-cup	3		0	Yes	3	
6NS2009	6	Compute fluently with multi-digit numbers and find common factors	Fluently divide multi-digit numbers using the standard algorithm.	3		3		3	
6NS2017	6	Compute fluently with multi-digit numbers and find common factors	Fluently divide multi-digit numbers using the standard algorithm.	3		3		3	
6NS3005	6	Compute fluently with multi-digit numbers and find common factors	Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.	3		3		2	
6NS3017	6	Compute fluently with multi-digit numbers and find common factors	Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.	3		3		2	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6NS4006	6	Compute fluently with multi-digit numbers and find common factors and multiples.	Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1?100 with a common factor as a multiple of a sum of two whole numbers with no	3		3		3	
6NS4014	6	Compute fluently with multi-digit numbers and find common factors and multiples.	Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1?100 with a common factor as a multiple of a sum of two whole numbers with no	3		3		3	
6NS5003	6	Apply and extend previous understandings of numbers to the system of rational numbers.	Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts,	1	Yes	3		3	
6NS5012	6	Apply and extend previous understandings of numbers to the system of rational numbers.	Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts,	1	Yes	3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6NS5021	6	Apply and extend previous understandings of numbers to the system of rational numbers.	Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts,	1	Yes	3		3	
6NS6005	6	Apply and extend previous understandings of numbers to the system of rational numbers.	Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative	3		3		3	
6NS6019	6	Apply and extend previous understandings of numbers to the system of rational numbers.	Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative	3		3		3	
6NS7004	6	Apply and extend previous understandings of numbers to the system of rational numbers.	Understand ordering and absolute value of rational numbers.	3		3		3	
6NS7014	6	Apply and extend previous understandings of numbers to the system of rational numbers.	Understand ordering and absolute value of rational numbers.	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6NS8003	6	Apply and extend previous understandings of numbers to the system of rational numbers.	Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.	3		1	Yes	2	
6NS8016	6	Apply and extend previous understandings of numbers to the system of rational numbers.	Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.	3		1	Yes	2	
6RP1010	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. For example, ?The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak.? ?For every vote candidate A received,	3		3		3	
6RP1017	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. For example, ?The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak.? ?For every vote candidate A received,	3		3		3	
6RP1025	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. For example, ?The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak.? ?For every vote candidate A received,	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6RP1038	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. For example, ?The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak.? ?For every vote candidate A received,	3		2		3	
6RP1044	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. For example, ?The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak.? ?For every vote candidate A received,	3		3		3	
6RP1059	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. For example, ?The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak.? ?For every vote candidate A received,	3		2		2	
6RP2005	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a unit rate a/b associated with a ratio a:b with b ? 0, and use rate language in the context of a ratio relationship. For example, ?This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar.? ?We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger.? Expectations for unit rates in this	3		2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6RP2016	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a unit rate a/b associated with a ratio a:b with b ? 0, and use rate language in the context of a ratio relationship. For example, ?This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar.? ?We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger.? Expectations for unit rates in this	3		3		2	
6RP2023	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a unit rate a/b associated with a ratio a:b with b ? 0, and use rate language in the context of a ratio relationship. For example, ?This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar.? ?We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger.? Expectations for unit rates in this	3		3		3	
6RP2033	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a unit rate a/b associated with a ratio a:b with b ? 0, and use rate language in the context of a ratio relationship. For example, ?This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar.? ?We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger.? Expectations for unit rates in this	3		3		2	
6RP2049	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a unit rate a/b associated with a ratio a:b with b ? 0, and use rate language in the context of a ratio relationship. For example, ?This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar.? ?We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger.? Expectations for unit rates in this	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6RP2056	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a unit rate a/b associated with a ratio a:b with b ? 0, and use rate language in the context of a ratio relationship. For example, ?This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar.? ?We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger.? Expectations for unit rates in this	3		3		2	
6RP3009	6	Understand ratio concepts and use ratio reasoning to solve problems.	Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or	3		1	Yes	3	
6RP3011	6	Understand ratio concepts and use ratio reasoning to solve problems.	Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or	3		1	Yes	2	
6RP3021	6	Understand ratio concepts and use ratio reasoning to solve problems.	Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or	3		3		3	
6RP3034	6	Understand ratio concepts and use ratio reasoning to solve problems.	Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or	2		3		3	
6RP3042	6	Understand ratio concepts and use ratio reasoning to solve problems.	Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or	3		3		3	
6RP3056	6	Understand ratio concepts and use ratio reasoning to solve problems.	Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or	3		0	Yes	1	Yes

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6SP1001	6	Develop understanding of statistical variability.	Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. For example, ?How old am I?? is not a statistical question, but ?How old are the students in my school?? is a statistical question because one anticipates	3		3		2	
6SP1014	6	Develop understanding of statistical variability.	Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. For example, ?How old am I?? is not a statistical question, but ?How old are the students in my school?? is a statistical question because one anticipates	3		3		2	
6SP1021	6	Develop understanding of statistical variability.	Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. For example, ?How old am I?? is not a statistical question, but ?How old are the students in my school?? is a statistical question because one anticipates	3		3		1	Yes
6SP1035	6	Develop understanding of statistical variability.	Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. For example, ?How old am I?? is not a statistical question, but ?How old are the students in my school?? is a statistical question because one anticipates	3		3		2	
6SP2011	6	Develop understanding of statistical variability.	Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and	1	No	0	No	3	
6SP2016	6	Develop understanding of statistical variability.	Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and	2		1	Yes	3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6SP2028	6	Develop understanding of statistical variability.	Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and	1	No	1	Yes	2	
6SP3004	6	Develop understanding of statistical variability.	Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a	3		0	No	3	
6SP3010	6	Develop understanding of statistical variability.	Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a	3		0	No	3	
6SP3023	6	Develop understanding of statistical variability.	Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a	2		2		3	
6SP3034	6	Develop understanding of statistical variability.	Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a	1	Yes	0	No	3	
6SP4004	6	Summarize and describe distributions.	Display numerical data in plots on a number line, including dot plots, histograms, and box plots.	1	No	3		2	
6SP4018	6	Summarize and describe distributions.	Display numerical data in plots on a number line, including dot plots, histograms, and box plots.	3		3		3	
6SP4029	6	Summarize and describe distributions.	Display numerical data in plots on a number line, including dot plots, histograms, and box plots.	1	No	3		3	
6SP4031	6	Summarize and describe distributions.	Display numerical data in plots on a number line, including dot plots, histograms, and box plots.	2		3		2	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6SP5011	6	Summarize and describe distributions.	Summarize numerical data sets in relation to their context, such as by: a. Reporting the number of observations. b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement. c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.	3		3		3	
6SP5020	6	Summarize and describe distributions.	Summarize numerical data sets in relation to their context, such as by: a. Reporting the number of observations. b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement. c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6SP5027	6	Summarize and describe distributions.	Summarize numerical data sets in relation to their context, such as by: a. Reporting the number of observations. b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement. c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.	3		1	Yes	3	
6EE1007	6	Apply and extend previous understandings of arithmetic to algebraic expressions.	Write and evaluate numerical expressions involving whole-number exponents.	3		2		3	
6EE1014	6	Apply and extend previous understandings of arithmetic to algebraic expressions.	Write and evaluate numerical expressions involving whole-number exponents.	3		3		3	
6EE2003	6	Apply and extend previous understandings of arithmetic to algebraic expressions.	Write, read, and evaluate expressions in which letters stand for numbers.	3		2		3	
6EE2009	6	Apply and extend previous understandings of arithmetic to algebraic expressions.	Write, read, and evaluate expressions in which letters stand for numbers.	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6EE2024	6	Apply and extend previous understandings of arithmetic to algebraic expressions.	Write, read, and evaluate expressions in which letters stand for numbers.	3		3		3	
6EE3008	6	Apply and extend previous understandings of arithmetic to algebraic expressions.	Apply the properties of operations to generate equivalent expressions. For example, apply the distributive property to the expression 3 (2 + x) to produce the equivalent expression 6 + 3x; apply the distributive property to the expression 24x + 18y to produce the equivalent expression 6 (4x + 3y); apply properties of operations to y + y + y to produce the	3		3		3	
6EE3017	6	Apply and extend previous understandings of arithmetic to algebraic expressions.	Apply the properties of operations to generate equivalent expressions. For example, apply the distributive property to the expression 3 (2 + x) to produce the equivalent expression 6 + 3x; apply the distributive property to the expression 24x + 18y to produce the equivalent expression 6 (4x + 3y); apply properties of operations to y + y + y to produce the	3		3		3	
6EE4006	6	Apply and extend previous understandings of arithmetic to algebraic expressions.	Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them). For example, the expressions y + y + y and 3y are equivalent because they name the same	3		3		3	
6EE4014	6	Apply and extend previous understandings of arithmetic to algebraic expressions.	Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them). For example, the expressions y + y + y and 3y are equivalent because they name the same	1	No	2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6EE5004	6	Reason about and solve one-variable equations and inequalities.	Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an	3		3		3	
6EE5013	6	Reason about and solve one-variable equations and inequalities.	Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an	3		2		3	
6EE6007	6	Reason about and solve one-variable equations and inequalities.	Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the	3		3		3	
6EE6017	6	Reason about and solve one-variable equations and inequalities.	Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the	2		3		3	
6EE7009	6	Reason about and solve one-variable equations and inequalities.	Solve real-world and mathematical problems by writing and solving equations of the form $x + p = q$ and $px = q$ for cases in which p, q and	1	Yes	2		3	
6EE8001	6	Reason about and solve one-variable equations and inequalities.	Write an inequality of the form $x > c$ or $x < c$ to represent a constraint or condition in a real-world or mathematical problem. Recognize that inequalities of the form $x > c$ or $x < c$ have infinitely many solutions; represent solutions of such inequalities on	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6EE8011	6	Reason about and solve one-variable equations and inequalities.	Write an inequality of the form x > c or x < c to represent a constraint or condition in a real-world or mathematical problem. Recognize that inequalities of the form x > c or x < c have infinitely many solutions; represent solutions of such inequalities on	3		3		3	
6EE9001	6	Represent and analyze quantitative relationships between dependent and independent variables.	Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. For example, in a problem involving motion at constant speed, list and graph ordered pairs	3		3		3	
6EE9015	6	Represent and analyze quantitative relationships between dependent and independent variables.	Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. For example, in a problem involving motion at constant speed, list and graph ordered pairs	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6G1003	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical	3		2		1	Yes
6G1024	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical	3		1	Yes	1	Yes
6G1028	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical	3		2		3	
6G1035	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical	3		2		1	Yes
6G2007	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas V = l w h and V = b h to find volumes of right rectangular prisms with fractional edge lengths in the	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6G2009	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas V = l w h and V = b h to find volumes of right rectangular prisms with fractional edge lengths in the	3		2		3	
6G2022	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas V = l w h and V = b h to find volumes of right rectangular prisms with fractional edge lengths in the	3		2		3	
6G2033	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas V = l w h and V = b h to find volumes of right rectangular prisms with fractional edge lengths in the	3		2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6G2042	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas V = l w h and V = b h to find volumes of right rectangular prisms with fractional edge lengths in the	3		2		3	
6G3005	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world	3		2		3	
6G3015	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world	3		3		3	
6G3029	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world	3		2		3	
6G3037	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world	3		2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6G4005	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world	3		3		3	
6G4012	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world	3		3		3	
6G4027	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world	3		3		3	
6G4034	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world	3		2		2	
6G4043	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world	3		2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6NS1006	6	Apply and extend previous understandings of multiplication and division to divide fractions by fractions.	Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem. For example, create a story context for (2/3) ÷ (3/4) and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that (2/3) ÷ (3/4) = 8/9 because 3/4 of 8/9 is 2/3. (In general, (a/b) ÷ (c/d) = ad/bc.) How much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 3/4-cup	3		3		3	
6NS1014	6	Apply and extend previous understandings of multiplication and division to divide fractions by fractions.	Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem. For example, create a story context for (2/3) ÷ (3/4) and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that (2/3) ÷ (3/4) = 8/9 because 3/4 of 8/9 is 2/3. (In general, (a/b) ÷ (c/d) = ad/bc.) How much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 3/4-cup	3		3		3	
6NS2001	6	Compute fluently with multi-digit numbers and find common factors	Fluently divide multi-digit numbers using the standard algorithm.	3		3		3	
6NS2011	6	Compute fluently with multi-digit numbers and find common factors	Fluently divide multi-digit numbers using the standard algorithm.	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6NS2020	6	Compute fluently with multi-digit numbers and find common factors	Fluently divide multi-digit numbers using the standard algorithm.	3		3		3	
6NS3009	6	Compute fluently with multi-digit numbers and find common factors	Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.	3		3		3	
6NS3020	6	Compute fluently with multi-digit numbers and find common factors	Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.	3		3		3	
6NS4008	6	Compute fluently with multi-digit numbers and find common factors and multiples.	Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1?100 with a common factor as a multiple of a sum of two whole numbers with no	3		3		3	
6NS4020	6	Compute fluently with multi-digit numbers and find common factors and multiples.	Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1?100 with a common factor as a multiple of a sum of two whole numbers with no	3		3		3	
6NS5004	6	Apply and extend previous understandings of numbers to the system of rational numbers.	Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts,	1	No	3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6NS5016	6	Apply and extend previous understandings of numbers to the system of rational numbers.	Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts,	1	No	3		3	
6NS5022	6	Apply and extend previous understandings of numbers to the system of rational numbers.	Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts,	1	No	2		3	
6NS6010	6	Apply and extend previous understandings of numbers to the system of rational numbers.	Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative	3		3		3	
6NS6018	6	Apply and extend previous understandings of numbers to the system of rational numbers.	Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative	2		3		3	
6NS7006	6	Apply and extend previous understandings of numbers to the system of rational numbers.	Understand ordering and absolute value of rational numbers.	3		2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6NS7013	6	Apply and extend previous understandings of numbers to the system of rational numbers.	Understand ordering and absolute value of rational numbers.	3		2		3	
6NS8005	6	Apply and extend previous understandings of numbers to the system of rational numbers.	Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.	3		2		3	
6NS8015	6	Apply and extend previous understandings of numbers to the system of rational numbers.	Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.	3		2		3	
6RP1001	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. For example, ?The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak.? ?For every vote candidate A received,	3		3		3	
6RP1015	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. For example, ?The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak.? ?For every vote candidate A received,	3		2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6RP1030	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. For example, ?The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak.? ?For every vote candidate A received,	3		3		3	
6RP1032	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. For example, ?The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak.? ?For every vote candidate A received,	3		2		3	
6RP1046	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. For example, ?The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak.? ?For every vote candidate A received,	3		3		3	
6RP1054	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. For example, ?The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak.? ?For every vote candidate A received,	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6RP2003	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a unit rate a/b associated with a ratio a:b with b ? 0, and use rate language in the context of a ratio relationship. For example, ?This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar.? ?We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger.? Expectations for unit rates in this	3		2		3	
6RP2017	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a unit rate a/b associated with a ratio a:b with b ? 0, and use rate language in the context of a ratio relationship. For example, ?This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar.? ?We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger.? Expectations for unit rates in this	3		2		3	
6RP2030	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a unit rate a/b associated with a ratio a:b with b ? 0, and use rate language in the context of a ratio relationship. For example, ?This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar.? ?We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger.? Expectations for unit rates in this	3		2		1	Yes
6RP2038	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a unit rate a/b associated with a ratio a:b with b ? 0, and use rate language in the context of a ratio relationship. For example, ?This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar.? ?We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger.? Expectations for unit rates in this	3		2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6RP2044	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a unit rate a/b associated with a ratio a:b with b ? 0, and use rate language in the context of a ratio relationship. For example, ?This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar.? ?We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger.? Expectations for unit rates in this	3		2		3	
6RP2052	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a unit rate a/b associated with a ratio a:b with b ? 0, and use rate language in the context of a ratio relationship. For example, ?This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar.? ?We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger.? Expectations for unit rates in this	3		2		3	
6RP3006	6	Understand ratio concepts and use ratio reasoning to solve problems.	Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or	3		3		3	
6RP3017	6	Understand ratio concepts and use ratio reasoning to solve problems.	Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or	3		3		3	
6RP3023	6	Understand ratio concepts and use ratio reasoning to solve problems.	Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or	3		3		3	
6RP3033	6	Understand ratio concepts and use ratio reasoning to solve problems.	Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6RP3044	6	Understand ratio concepts and use ratio reasoning to solve problems.	Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or	3		2		3	
6RP3058	6	Understand ratio concepts and use ratio reasoning to solve problems.	Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or	3		1	Yes	3	
6SP1006	6	Develop understanding of statistical variability.	Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. For example, ?How old am I?? is not a statistical question, but ?How old are the students in my school?? is a statistical question because one anticipates	3		2		3	
6SP1013	6	Develop understanding of statistical variability.	Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. For example, ?How old am I?? is not a statistical question, but ?How old are the students in my school?? is a statistical question because one anticipates	3		2		3	
6SP1029	6	Develop understanding of statistical variability.	Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. For example, ?How old am I?? is not a statistical question, but ?How old are the students in my school?? is a statistical question because one anticipates	3		2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6SP1034	6	Develop understanding of statistical variability.	Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. For example, ?How old am I?? is not a statistical question, but ?How old are the students in my school?? is a statistical question because one anticipates	3		2		3	
6SP2008	6	Develop understanding of statistical variability.	Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and	1	Yes	2		3	
6SP2020	6	Develop understanding of statistical variability.	Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and	2		3		1	Yes
6SP2029	6	Develop understanding of statistical variability.	Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and	3		3		3	
6SP3006	6	Develop understanding of statistical variability.	Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a	2		3		3	
6SP3015	6	Develop understanding of statistical variability.	Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a	2		3		2	
6SP3021	6	Develop understanding of statistical variability.	Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a	0	No	3		1	Yes
6SP3036	6	Develop understanding of statistical variability.	Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a	2		2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6SP4007	6	Summarize and describe distributions.	Display numerical data in plots on a number line, including dot plots, histograms, and box plots.	3		3		3	
6SP4015	6	Summarize and describe distributions.	Display numerical data in plots on a number line, including dot plots, histograms, and box plots.	0	No	1	Yes	0	No
6SP4030	6	Summarize and describe distributions.	Display numerical data in plots on a number line, including dot plots, histograms, and box plots.	2		3		3	
6SP5001	6	Summarize and describe distributions.	Summarize numerical data sets in relation to their context, such as by: a. Reporting the number of observations. b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement. c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.	3		2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6SP5009	6	Summarize and describe distributions.	Summarize numerical data sets in relation to their context, such as by: a. Reporting the number of observations. b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement. c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.	3		3		3	
6SP5021	6	Summarize and describe distributions.	Summarize numerical data sets in relation to their context, such as by: a. Reporting the number of observations. b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement. c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.	3		3		2	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6SP5034	6	Summarize and describe distributions.	Summarize numerical data sets in relation to their context, such as by: a. Reporting the number of observations. b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement. c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.	2		3		2	
6EE1005	6	Apply and extend previous understandings of arithmetic to algebraic expressions.	Write and evaluate numerical expressions involving whole-number exponents.	3		3		3	
6EE1020	6	Apply and extend previous understandings of arithmetic to algebraic expressions.	Write and evaluate numerical expressions involving whole-number exponents.	3		3		3	
6EE2002	6	Apply and extend previous understandings of arithmetic to algebraic expressions.	Write, read, and evaluate expressions in which letters stand for numbers.	2		2		3	
6EE2016	6	Apply and extend previous understandings of arithmetic to algebraic expressions.	Write, read, and evaluate expressions in which letters stand for numbers.	3		2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6EE2022	6	Apply and extend previous understandings of arithmetic to algebraic expressions.	Write, read, and evaluate expressions in which letters stand for numbers.	3		2		3	
6EE3011	6	Apply and extend previous understandings of arithmetic to algebraic expressions.	Apply the properties of operations to generate equivalent expressions. For example, apply the distributive property to the expression 3 (2 + x) to produce the equivalent expression 6 + 3x; apply the distributive property to the expression 24x + 18y to produce the equivalent expression 6 (4x + 3y); apply properties of operations to y + y + y to produce the	3		3		3	
6EE3020	6	Apply and extend previous understandings of arithmetic to algebraic expressions.	Apply the properties of operations to generate equivalent expressions. For example, apply the distributive property to the expression 3 (2 + x) to produce the equivalent expression 6 + 3x; apply the distributive property to the expression 24x + 18y to produce the equivalent expression 6 (4x + 3y); apply properties of operations to y + y + y to produce the	2		3		3	
6EE4005	6	Apply and extend previous understandings of arithmetic to algebraic expressions.	Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them). For example, the expressions y + y + y and 3y are equivalent because they name the same	3		3		3	
6EE4016	6	Apply and extend previous understandings of arithmetic to algebraic expressions.	Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them). For example, the expressions y + y + y and 3y are equivalent because they name the same	2		1	Yes	3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6EE5007	6	Reason about and solve one-variable equations and inequalities.	Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an	3		3		3	
6EE5018	6	Reason about and solve one-variable equations and inequalities.	Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an	2		2		3	
6EE6011	6	Reason about and solve one-variable equations and inequalities.	Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the	2		1	Yes	3	
6EE7001	6	Reason about and solve one-variable equations and inequalities.	Solve real-world and mathematical problems by writing and solving equations of the form x + p = q and px = q for cases in which p, q and	0	Yes	0	Yes	3	
6EE7012	6	Reason about and solve one-variable equations and inequalities.	Solve real-world and mathematical problems by writing and solving equations of the form x + p = q and px = q for cases in which p, q and	0	Yes	0	Yes	3	
6EE8006	6	Reason about and solve one-variable equations and inequalities.	Write an inequality of the form x > c or x < c to represent a constraint or condition in a real-world or mathematical problem. Recognize that inequalities of the form x > c or x < c have infinitely many solutions; represent solutions of such inequalities on	1	Yes	2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6EE8014	6	Reason about and solve one-variable equations and inequalities.	Write an inequality of the form x > c or x < c to represent a constraint or condition in a real-world or mathematical problem. Recognize that inequalities of the form x > c or x < c have infinitely many solutions; represent solutions of such inequalities on	2		2		3	
6EE9006	6	Represent and analyze quantitative relationships between dependent and independent variables.	Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. For example, in a problem involving motion at constant speed, list and graph ordered pairs	3		3		3	
6EE9014	6	Represent and analyze quantitative relationships between dependent and independent variables.	Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. For example, in a problem involving motion at constant speed, list and graph ordered pairs	2		2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6G1008	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical	2		2		1	Yes
6G1022	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical	2		2		3	
6G1026	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical	2		2		2	
6G1043	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical	3		2		3	
6G2001	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas V = l w h and V = b h to find volumes of right rectangular prisms with fractional edge lengths in the	3		2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6G2010	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas V = l w h and V = b h to find volumes of right rectangular prisms with fractional edge lengths in the	1	Yes	2		3	
6G2031	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas V = l w h and V = b h to find volumes of right rectangular prisms with fractional edge lengths in the	3		3		3	
6G2036	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas V = l w h and V = b h to find volumes of right rectangular prisms with fractional edge lengths in the	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6G2039	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas V = l w h and V = b h to find volumes of right rectangular prisms with fractional edge lengths in the	3		3		3	
6G3009	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world	2		2		3	
6G3020	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world	1	Yes	1	Yes	3	
6G3025	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world	1	Yes	2		3	
6G3042	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6G4007	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world	3		3		3	
6G4009	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world	3		3		3	
6G4022	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world	2		2		3	
6G4030	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world	2		1	Yes	3	
6G4046	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world	2		2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6NS1008	6	Apply and extend previous understandings of multiplication and division to divide fractions by fractions.	Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem. For example, create a story context for (2/3) ÷ (3/4) and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that (2/3) ÷ (3/4) = 8/9 because 3/4 of 8/9 is 2/3. (In general, (a/b) ÷ (c/d) = ad/bc.) How much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 3/4-cup	3		3		3	
6NS1019	6	Apply and extend previous understandings of multiplication and division to divide fractions by fractions.	Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem. For example, create a story context for (2/3) ÷ (3/4) and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that (2/3) ÷ (3/4) = 8/9 because 3/4 of 8/9 is 2/3. (In general, (a/b) ÷ (c/d) = ad/bc.) How much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 3/4-cup	3		3		3	
6NS2002	6	Compute fluently with multi-digit numbers and find common factors	Fluently divide multi-digit numbers using the standard algorithm.	3		3		1	Yes
6NS2015	6	Compute fluently with multi-digit numbers and find common factors	Fluently divide multi-digit numbers using the standard algorithm.	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6NS3001	6	Compute fluently with multi-digit numbers and find common factors	Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.	3		3		3	
6NS3010	6	Compute fluently with multi-digit numbers and find common factors	Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.	3		3		3	
6NS3021	6	Compute fluently with multi-digit numbers and find common factors	Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.	3		3		3	
6NS4010	6	Compute fluently with multi-digit numbers and find common factors and multiples.	Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1?100 with a common factor as a multiple of a sum of two whole numbers with no	3		3		3	
6NS4017	6	Compute fluently with multi-digit numbers and find common factors and multiples.	Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1?100 with a common factor as a multiple of a sum of two whole numbers with no	3		3		3	
6NS5008	6	Apply and extend previous understandings of numbers to the system of rational numbers.	Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts,	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6NS5013	6	Apply and extend previous understandings of numbers to the system of rational numbers.	Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts,	2		3		3	
6NS6001	6	Apply and extend previous understandings of numbers to the system of rational numbers.	Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative	3		3		2	
6NS6009	6	Apply and extend previous understandings of numbers to the system of rational numbers.	Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative	3		3		3	
6NS6024	6	Apply and extend previous understandings of numbers to the system of rational numbers.	Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative	1	Yes	1	Yes	2	
6NS7008	6	Apply and extend previous understandings of numbers to the system of rational numbers.	Understand ordering and absolute value of rational numbers.	3		3		1	Yes
6NS7019	6	Apply and extend previous understandings of numbers to the system of rational numbers.	Understand ordering and absolute value of rational numbers.	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6NS8007	6	Apply and extend previous understandings of numbers to the system of rational numbers.	Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.	3		3		3	
6NS8019	6	Apply and extend previous understandings of numbers to the system of rational numbers.	Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.	2		2		3	
6RP1007	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. For example, ?The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak.? ?For every vote candidate A received,	2		2		3	
6RP1016	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. For example, ?The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak.? ?For every vote candidate A received,	3		3		3	
6RP1022	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. For example, ?The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak.? ?For every vote candidate A received,	2		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6RP1036	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. For example, ?The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak.? ?For every vote candidate A received,	3		3		3	
6RP1043	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. For example, ?The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak.? ?For every vote candidate A received,	3		3		3	
6RP1055	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. For example, ?The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak.? ?For every vote candidate A received,	3		3		3	
6RP2001	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a unit rate a/b associated with a ratio a:b with b ? 0, and use rate language in the context of a ratio relationship. For example, ?This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar.? ?We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger.? Expectations for unit rates in this	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6RP2011	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a unit rate a/b associated with a ratio a:b with b ? 0, and use rate language in the context of a ratio relationship. For example, ?This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar.? ?We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger.? Expectations for unit rates in this	3		3		3	
6RP2024	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a unit rate a/b associated with a ratio a:b with b ? 0, and use rate language in the context of a ratio relationship. For example, ?This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar.? ?We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger.? Expectations for unit rates in this	3		3		3	
6RP2039	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a unit rate a/b associated with a ratio a:b with b ? 0, and use rate language in the context of a ratio relationship. For example, ?This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar.? ?We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger.? Expectations for unit rates in this	3		3		3	
6RP2042	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a unit rate a/b associated with a ratio a:b with b ? 0, and use rate language in the context of a ratio relationship. For example, ?This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar.? ?We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger.? Expectations for unit rates in this	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6RP2060	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a unit rate a/b associated with a ratio a:b with b ? 0, and use rate language in the context of a ratio relationship. For example, ?This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar.? ?We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger.? Expectations for unit rates in this	3		3		2	
6RP3007	6	Understand ratio concepts and use ratio reasoning to solve problems.	Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or	3		2		3	
6RP3019	6	Understand ratio concepts and use ratio reasoning to solve problems.	Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or	3		3		3	
6RP3027	6	Understand ratio concepts and use ratio reasoning to solve problems.	Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or	3		3		3	
6RP3031	6	Understand ratio concepts and use ratio reasoning to solve problems.	Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or	2		2		3	
6RP3041	6	Understand ratio concepts and use ratio reasoning to solve problems.	Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or	3		3		3	
6RP3059	6	Understand ratio concepts and use ratio reasoning to solve problems.	Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or	2		1	Yes	2	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6SP1010	6	Develop understanding of statistical variability.	Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. For example, ?How old am I?? is not a statistical question, but ?How old are the students in my school?? is a statistical question because one anticipates	2		3		3	
6SP1018	6	Develop understanding of statistical variability.	Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. For example, ?How old am I?? is not a statistical question, but ?How old are the students in my school?? is a statistical question because one anticipates	2		2		3	
6SP1030	6	Develop understanding of statistical variability.	Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. For example, ?How old am I?? is not a statistical question, but ?How old are the students in my school?? is a statistical question because one anticipates	1	No	1	Yes	3	
6SP2004	6	Develop understanding of statistical variability.	Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and	3		1	Yes	2	
6SP2010	6	Develop understanding of statistical variability.	Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and	3		1	Yes	3	
6SP2019	6	Develop understanding of statistical variability.	Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and	3		2		1	Yes
6SP2035	6	Develop understanding of statistical variability.	Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and	3		1	Yes	1	Yes

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6SP3005	6	Develop understanding of statistical variability.	Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a	3		3		3	
6SP3016	6	Develop understanding of statistical variability.	Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a	3		3		1	Yes
6SP3025	6	Develop understanding of statistical variability.	Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a	3		3		3	
6SP3032	6	Develop understanding of statistical variability.	Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a	3		3		1	Yes
6SP4010	6	Summarize and describe distributions.	Display numerical data in plots on a number line, including dot plots, histograms, and box plots.	3		3		3	
6SP4024	6	Summarize and describe distributions.	Display numerical data in plots on a number line, including dot plots, histograms, and box plots.	2		2		3	
6SP4027	6	Summarize and describe distributions.	Display numerical data in plots on a number line, including dot plots, histograms, and box plots.	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6SP5006	6	Summarize and describe distributions.	Summarize numerical data sets in relation to their context, such as by: a. Reporting the number of observations. b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement. c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.	3		3		2	
6SP5017	6	Summarize and describe distributions.	Summarize numerical data sets in relation to their context, such as by: a. Reporting the number of observations. b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement. c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6SP5023	6	Summarize and describe distributions.	Summarize numerical data sets in relation to their context, such as by: a. Reporting the number of observations. b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement. c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.	2		1	Yes	2	
6SP5032	6	Summarize and describe distributions.	Summarize numerical data sets in relation to their context, such as by: a. Reporting the number of observations. b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement. c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.	1	Yes	1	Yes	1	No
6EE1012	6	Apply and extend previous understandings of arithmetic to algebraic expressions.	Write and evaluate numerical expressions involving whole-number exponents.	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6EE1017	6	Apply and extend previous understandings of arithmetic to algebraic expressions.	Write and evaluate numerical expressions involving whole-number exponents.	3		3		3	
6EE2007	6	Apply and extend previous understandings of arithmetic to algebraic expressions.	Write, read, and evaluate expressions in which letters stand for numbers.	2		3		3	
6EE2015	6	Apply and extend previous understandings of arithmetic to algebraic expressions.	Write, read, and evaluate expressions in which letters stand for numbers.	2		3		3	
6EE3003	6	Apply and extend previous understandings of arithmetic to algebraic expressions.	Apply the properties of operations to generate equivalent expressions. For example, apply the distributive property to the expression 3 (2 + x) to produce the equivalent expression 6 + 3x; apply the distributive property to the expression 24x + 18y to produce the equivalent expression 6 (4x + 3y); apply properties of operations to y + y + y to produce the	3		3		1	Yes
6EE3012	6	Apply and extend previous understandings of arithmetic to algebraic expressions.	Apply the properties of operations to generate equivalent expressions. For example, apply the distributive property to the expression 3 (2 + x) to produce the equivalent expression 6 + 3x; apply the distributive property to the expression 24x + 18y to produce the equivalent expression 6 (4x + 3y); apply properties of operations to y + y + y to produce the	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6EE3022	6	Apply and extend previous understandings of arithmetic to algebraic expressions.	Apply the properties of operations to generate equivalent expressions. For example, apply the distributive property to the expression 3 (2 + x) to produce the equivalent expression 6 + 3x; apply the distributive property to the expression 24x + 18y to produce the equivalent expression 6 (4x + 3y); apply properties of operations to y + y + y to produce the	3		3		3	
6EE4009	6	Apply and extend previous understandings of arithmetic to algebraic expressions.	Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them). For example, the expressions y + y + y and 3y are equivalent because they name the same	3		0	Yes	1	Yes
6EE4017	6	Apply and extend previous understandings of arithmetic to algebraic expressions.	Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them). For example, the expressions y + y + y and 3y are equivalent because they name the same	3		0	No	3	
6EE5009	6	Reason about and solve one-variable equations and inequalities.	Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an	3		3		3	
6EE6002	6	Reason about and solve one-variable equations and inequalities.	Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6EE6012	6	Reason about and solve one-variable equations and inequalities.	Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the	3		3		3	
6EE7002	6	Reason about and solve one-variable equations and inequalities.	Solve real-world and mathematical problems by writing and solving equations of the form x + p = q and px = q for cases in which p, q and	2		3		3	
6EE7014	6	Reason about and solve one-variable equations and inequalities.	Solve real-world and mathematical problems by writing and solving equations of the form x + p = q and px = q for cases in which p, q and	2		3		3	
6EE8004	6	Reason about and solve one-variable equations and inequalities.	Write an inequality of the form x > c or x < c to represent a constraint or condition in a real-world or mathematical problem. Recognize that inequalities of the form x > c or x < c have infinitely many solutions; represent solutions of such inequalities on	2		3		1	Yes
6EE8016	6	Reason about and solve one-variable equations and inequalities.	Write an inequality of the form x > c or x < c to represent a constraint or condition in a real-world or mathematical problem. Recognize that inequalities of the form x > c or x < c have infinitely many solutions; represent solutions of such inequalities on	2		3		1	Yes

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6EE9007	6	Represent and analyze quantitative relationships between dependent and independent variables.	Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. For example, in a problem involving motion at constant speed, list and graph ordered pairs	2		3		2	
6EE9016	6	Represent and analyze quantitative relationships between dependent and independent variables.	Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. For example, in a problem involving motion at constant speed, list and graph ordered pairs	3		3		3	
6G1016	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6G1020	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical	3		3		3	
6G1032	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical	0	Yes	0	No	1	Yes
6G1042	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical	3		3		3	
6G2008	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas V = l w h and V = b h to find volumes of right rectangular prisms with fractional edge lengths in the	3		1	Yes	0	Yes

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6G2024	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas V = l w h and V = b h to find volumes of right rectangular prisms with fractional edge lengths in the	3		3		3	
6G2025	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas V = l w h and V = b h to find volumes of right rectangular prisms with fractional edge lengths in the	3		3		1	Yes
6G2037	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas V = l w h and V = b h to find volumes of right rectangular prisms with fractional edge lengths in the	3		3		2	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6G2038	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas V = l w h and V = b h to find volumes of right rectangular prisms with fractional edge lengths in the	3		3		3	
6G3014	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world	2		3		3	
6G3019	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world	2		2		3	
6G3032	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world	3		3		2	
6G3043	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6G4003	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world	3		3		3	
6G4018	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world	3		3		1	Yes
6G4023	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world	3		3		3	
6G4035	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world	3		2		2	
6G4044	6	Solve real-world and mathematical problems involving area, surface area, and volume.	Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world	1	Yes	3		1	Yes

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6NS1011	6	Apply and extend previous understandings of multiplication and division to divide fractions by fractions.	Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem. For example, create a story context for (2/3) ÷ (3/4) and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that (2/3) ÷ (3/4) = 8/9 because 3/4 of 8/9 is 2/3. (In general, (a/b) ÷ (c/d) = ad/bc.) How much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 3/4-cup	3		3		3	
6NS1017	6	Apply and extend previous understandings of multiplication and division to divide fractions by fractions.	Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem. For example, create a story context for (2/3) ÷ (3/4) and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that (2/3) ÷ (3/4) = 8/9 because 3/4 of 8/9 is 2/3. (In general, (a/b) ÷ (c/d) = ad/bc.) How much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 3/4-cup	3		3		3	
6NS2005	6	Compute fluently with multi-digit numbers and find common factors	Fluently divide multi-digit numbers using the standard algorithm.	3		0	No	3	
6NS2013	6	Compute fluently with multi-digit numbers and find common factors	Fluently divide multi-digit numbers using the standard algorithm.	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6NS3003	6	Compute fluently with multi-digit numbers and find common factors	Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.	3		3		3	
6NS3009	6			3		3		3	
6NS3015	6	Compute fluently with multi-digit numbers and find common factors	Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.	3		3		3	
6NS4003	6	Compute fluently with multi-digit numbers and find common factors and multiples.	Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1?100 with a common factor as a multiple of a sum of two whole numbers with no	3		3		3	
6NS4009	6	Compute fluently with multi-digit numbers and find common factors and multiples.	Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1?100 with a common factor as a multiple of a sum of two whole numbers with no	3		3		3	
6NS4023	6	Compute fluently with multi-digit numbers and find common factors and multiples.	Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1?100 with a common factor as a multiple of a sum of two whole numbers with no	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6NS5006	6	Apply and extend previous understandings of numbers to the system of rational numbers.	Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts,	3		3		3	
6NS5020	6	Apply and extend previous understandings of numbers to the system of rational numbers.	Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts,	3		3		3	
6NS6003	6	Apply and extend previous understandings of numbers to the system of rational numbers.	Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative	2		3		3	
6NS6016	6	Apply and extend previous understandings of numbers to the system of rational numbers.	Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative	3		3		3	
6NS6022	6	Apply and extend previous understandings of numbers to the system of rational numbers.	Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative	2		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6NS7011	6	Apply and extend previous understandings of numbers to the system of rational numbers.	Understand ordering and absolute value of rational numbers.	2		1	Yes	1	Yes
6NS7017	6	Apply and extend previous understandings of numbers to the system of rational numbers.	Understand ordering and absolute value of rational numbers.	2		1	Yes	1	Yes
6NS8009	6	Apply and extend previous understandings of numbers to the system of rational numbers.	Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.	1	Yes	3		3	
6NS8020	6	Apply and extend previous understandings of numbers to the system of rational numbers.	Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.	1	Yes	3		3	
6RP1008	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. For example, ?The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak.? ?For every vote candidate A received,	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6RP1014	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. For example, ?The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak.? ?For every vote candidate A received,	3		3		3	
6RP1024	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. For example, ?The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak.? ?For every vote candidate A received,	3		3		2	
6RP1034	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. For example, ?The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak.? ?For every vote candidate A received,	3		3		1	Yes
6RP1047	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. For example, ?The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak.? ?For every vote candidate A received,	3		3		1	Yes
6RP1053	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. For example, ?The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak.? ?For every vote candidate A received,	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6RP2002	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a unit rate a/b associated with a ratio a:b with b ? 0, and use rate language in the context of a ratio relationship. For example, ?This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar.? ?We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger.? Expectations for unit rates in this	1	Yes	2		3	
6RP2018	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a unit rate a/b associated with a ratio a:b with b ? 0, and use rate language in the context of a ratio relationship. For example, ?This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar.? ?We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger.? Expectations for unit rates in this	3		1	Yes	3	
6RP2025	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a unit rate a/b associated with a ratio a:b with b ? 0, and use rate language in the context of a ratio relationship. For example, ?This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar.? ?We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger.? Expectations for unit rates in this	3		2		1	Yes
6RP2035	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a unit rate a/b associated with a ratio a:b with b ? 0, and use rate language in the context of a ratio relationship. For example, ?This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar.? ?We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger.? Expectations for unit rates in this	3		3		2	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6RP2041	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a unit rate a/b associated with a ratio a:b with b ? 0, and use rate language in the context of a ratio relationship. For example, ?This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar.? ?We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger.? Expectations for unit rates in this	3		2		1	Yes
6RP2054	6	Understand ratio concepts and use ratio reasoning to solve problems.	Understand the concept of a unit rate a/b associated with a ratio a:b with b ? 0, and use rate language in the context of a ratio relationship. For example, ?This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar.? ?We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger.? Expectations for unit rates in this	3		3		2	
6RP3003	6	Understand ratio concepts and use ratio reasoning to solve problems.	Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or	1	Yes	2		3	
6RP3012	6	Understand ratio concepts and use ratio reasoning to solve problems.	Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or	1	Yes	3		3	
6RP3024	6	Understand ratio concepts and use ratio reasoning to solve problems.	Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or	3		3		3	
6RP3036	6	Understand ratio concepts and use ratio reasoning to solve problems.	Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or	1	Yes	1	Yes	3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6RP3047	6	Understand ratio concepts and use ratio reasoning to solve problems.	Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or	2		1	Yes	1	Yes
6RP3060	6	Understand ratio concepts and use ratio reasoning to solve problems.	Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or	2		0	Yes	0	Yes
6SP1008	6	Develop understanding of statistical variability.	Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. For example, ?How old am I?? is not a statistical question, but ?How old are the students in my school?? is a statistical question because one anticipates	3		3		3	
6SP1020	6	Develop understanding of statistical variability.	Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. For example, ?How old am I?? is not a statistical question, but ?How old are the students in my school?? is a statistical question because one anticipates	2		3		2	
6SP1025	6	Develop understanding of statistical variability.	Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. For example, ?How old am I?? is not a statistical question, but ?How old are the students in my school?? is a statistical question because one anticipates	3		3		2	
6SP2006	6	Develop understanding of statistical variability.	Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and	3		3		1	Yes

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6SP2014	6	Develop understanding of statistical variability.	Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and	3		3		3	
6SP2021	6	Develop understanding of statistical variability.	Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and	3		3		3	
6SP2033	6	Develop understanding of statistical variability.	Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and	3		3		3	
6SP3012	6	Develop understanding of statistical variability.	Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a	3		3		3	
6SP3013	6	Develop understanding of statistical variability.	Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a	3		3		3	
6SP3026	6	Develop understanding of statistical variability.	Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a	3		3		3	
6SP4012	6	Summarize and describe distributions.	Display numerical data in plots on a number line, including dot plots, histograms, and box plots.	3		3		3	
6SP4020	6	Summarize and describe distributions.	Display numerical data in plots on a number line, including dot plots, histograms, and box plots.	3		3		3	
6SP4034	6	Summarize and describe distributions.	Display numerical data in plots on a number line, including dot plots, histograms, and box plots.	3		3		1	Yes

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6SP5002	6	Summarize and describe distributions.	Summarize numerical data sets in relation to their context, such as by: a. Reporting the number of observations. b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement. c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.	3		3		2	
6SP5014	6	Summarize and describe distributions.	Summarize numerical data sets in relation to their context, such as by: a. Reporting the number of observations. b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement. c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.	3		1	Yes	3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
6SP5026	6	Summarize and describe distributions.	Summarize numerical data sets in relation to their context, such as by: a. Reporting the number of observations. b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement. c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.	3		2		3	
6SP5035	6	Summarize and describe distributions.	Summarize numerical data sets in relation to their context, such as by: a. Reporting the number of observations. b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement. c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.	3		3		2	
7EE1022	7	Use properties of operations to generate equivalent expressions.	Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.	3		3		3	
7EE1025	7	Use properties of operations to generate equivalent expressions.	Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.	0	No	3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7EE1030	7	Use properties of operations to generate equivalent expressions.	Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.	0	No	3		3	
7EE1038	7	Use properties of operations to generate equivalent expressions.	Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.	3		3		3	
7EE1040	7	Use properties of operations to generate equivalent expressions.	Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.	3		3		3	
7EE2008	7	Use properties of operations to generate equivalent expressions.	Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. For example, a + 0.05a = 1.05a means that ?increase by	3		1	Yes	1	Yes
7EE2020	7	Use properties of operations to generate equivalent expressions.	Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. For example, a + 0.05a = 1.05a means that ?increase by	3		2		3	
7EE2041	7	Use properties of operations to generate equivalent expressions.	Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. For example, a + 0.05a = 1.05a means that ?increase by	3		3		3	
7EE2044	7	Use properties of operations to generate equivalent expressions.	Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. For example, a + 0.05a = 1.05a means that ?increase by	3		1	Yes	1	Yes

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7EE3001	7	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9	3		3		3	
7EE3016	7	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7EE3020	7	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9	3		3		3	
7EE3034	7	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7EE3040	7	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9	3		2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7EE4002	7	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. a. Solve word problems leading to equations of the form px + q = r and p(x + q) = r, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width? b. Solve word problems leading to inequalities of the form px + q > r or px + q < r, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7EE4006	7	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. a. Solve word problems leading to equations of the form px + q = r and p(x + q) = r, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width? b. Solve word problems leading to inequalities of the form px + q > r or px + q < r, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7EE4011	7	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. a. Solve word problems leading to equations of the form px + q = r and p(x + q) = r, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width? b. Solve word problems leading to inequalities of the form px + q > r or px + q < r, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7EE4027	7	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. a. Solve word problems leading to equations of the form px + q = r and p(x + q) = r, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width? b. Solve word problems leading to inequalities of the form px + q > r or px + q < r, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of	3		3		3	
7G1001	7	Draw, construct, and describe geometrical figures and describe the relationships between them.	Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different	2		3		3	
7G1018	7	Draw, construct, and describe geometrical figures and describe the relationships between them.	Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different	3		1	Yes	1	Yes
7G1025	7	Draw, construct, and describe geometrical figures and describe the relationships between them.	Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different	2		2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7G2003	7	Draw, construct, and describe geometrical figures and describe the relationships between them.	Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more	2		1	Yes	1	Yes
7G2017	7	Draw, construct, and describe geometrical figures and describe the relationships between them.	Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more	3		3		3	
7G2030	7	Draw, construct, and describe geometrical figures and describe the relationships between them.	Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more	3		3		3	
7G3017	7	Draw, construct, and describe geometrical figures and describe the relationships between them.	Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.	3		3		3	
7G3018	7	Draw, construct, and describe geometrical figures and describe the relationships between them.	Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.	3		3		3	
7G3020	7	Draw, construct, and describe geometrical figures and describe the relationships between them.	Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7G4019	7	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.	1	Yes	3		2	
7G4025	7	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.	1	Yes	3		3	
7G4028	7	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.	3		1	Yes	1	Yes
7G5010	7	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.	2		1	Yes	3	
7G5017	7	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.	2		3		3	
7G5019	7	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.	2		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7G6006	7	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.	3		3		3	
7G6013	7	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.	2		3		2	
7G6014	7	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.	2		3		2	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS1002	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. a. Describe situations in which opposite quantities combine to make 0. For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged. b. Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts. c. Understand subtraction of rational numbers as adding the additive inverse, p ? q = p + (?q). Show that the distance between	3		1	Yes	3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS1010	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. a. Describe situations in which opposite quantities combine to make 0. For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged. b. Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts. c. Understand subtraction of rational numbers as adding the additive inverse, p ? q = p + (?q). Show that the distance between	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS1019	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. a. Describe situations in which opposite quantities combine to make 0. For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged. b. Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts. c. Understand subtraction of rational numbers as adding the additive inverse, p ? q = p + (?q). Show that the distance between	1	Yes	3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS1023	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. a. Describe situations in which opposite quantities combine to make 0. For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged. b. Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts. c. Understand subtraction of rational numbers as adding the additive inverse, p ? q = p + (?q). Show that the distance between	3		3		1	Yes

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS1042	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. a. Describe situations in which opposite quantities combine to make 0. For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged. b. Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts. c. Understand subtraction of rational numbers as adding the additive inverse, p ? q = p + (?q). Show that the distance between	2		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS1059	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. a. Describe situations in which opposite quantities combine to make 0. For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged. b. Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts. c. Understand subtraction of rational numbers as adding the additive inverse, p ? q = p + (?q). Show that the distance between	1	Yes	3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS2001	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (?1)(?1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts. b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then ?(p/q) = (?p)/q = p/(?q). Interpret quotients of rational numbers by describing realworld contexts.	1	Yes	3		2	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS2006	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (?1)(?1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts. b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then ?(p/q) = (?p)/q = p/(?q). Interpret quotients of rational numbers by describing realworld contexts.	1	Yes	3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS2023	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (?1)(?1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts. b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then ?(p/q) = (?p)/q = p/(?q). Interpret quotients of rational numbers by describing realworld contexts.	1	Yes	3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS2039	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (?1)(?1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts. b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then ?(p/q) = (?p)/q = p/(?q). Interpret quotients of rational numbers by describing realworld contexts.	1	Yes	3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS2042	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (?1)(?1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts. b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then ?(p/q) = (?p)/q = p/(?q). Interpret quotients of rational numbers by describing realworld contexts.	1	Yes	3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS2051	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (?1)(?1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts. b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then ?(p/q) = (?p)/q = p/(?q). Interpret quotients of rational numbers by describing realworld contexts.	1	Yes	3		2	
7NS3002	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Solve real-world and mathematical problems involving the four operations with rational numbers. Computations with rational numbers extend the rules for manipulating fractions to complex fractions.	3		3		2	
7NS3008	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Solve real-world and mathematical problems involving the four operations with rational numbers. Computations with rational numbers extend the rules for manipulating fractions to complex fractions.	1	Yes	1	Yes	3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS3015	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Solve real-world and mathematical problems involving the four operations with rational numbers. Computations with rational numbers extend the rules for manipulating fractions to complex fractions.	1	Yes	3		3	
7NS3047	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Solve real-world and mathematical problems involving the four operations with rational numbers. Computations with rational numbers extend the rules for manipulating fractions to complex fractions.	1	Yes	3		1	Yes
7NS3052	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Solve real-world and mathematical problems involving the four operations with rational numbers. Computations with rational numbers extend the rules for manipulating fractions to complex fractions.	2		1	Yes	2	
7NS3058	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Solve real-world and mathematical problems involving the four operations with rational numbers. Computations with rational numbers extend the rules for manipulating fractions to complex fractions.	2		1	Yes	2	
7RP1002	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction 1/2/1/4	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7RP1015	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction 1/2/1/4	3		3		3	
7RP1028	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction 1/2/1/4	3		3		3	
7RP1045	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction 1/2/1/4	3		3		3	
7RP1054	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction 1/2/1/4	1	Yes	3		2	
7RP1058	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction 1/2/1/4	3		1	Yes	3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7RP2015	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Recognize and represent proportional relationships between quantities. a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin. b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. c. Represent proportional relationships by equations. For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the	1	Yes	1	Yes	1	Yes

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7RP2021	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Recognize and represent proportional relationships between quantities. a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin. b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. c. Represent proportional relationships by equations. For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the	1	Yes	2		1	Yes

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7RP2032	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Recognize and represent proportional relationships between quantities. a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin. b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. c. Represent proportional relationships by equations. For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the	2		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7RP2035	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Recognize and represent proportional relationships between quantities. a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin. b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. c. Represent proportional relationships by equations. For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the	2		3		2	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7RP2040	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Recognize and represent proportional relationships between quantities. a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin. b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. c. Represent proportional relationships by equations. For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the	2		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7RP2045	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Recognize and represent proportional relationships between quantities. a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin. b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. c. Represent proportional relationships by equations. For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the	1	Yes	3		3	
7RP3027	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent	3		3		3	
7RP3032	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent	3		3		3	
7RP3048	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7RP3051	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent	1	Yes	1	Yes	0	Yes
7RP3057	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent	2		3		3	
7RP3060	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent	3		3		3	
7SP1002	7	Use random sampling to draw inferences about a population.	Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and	3		3		3	
7SP1015	7	Use random sampling to draw inferences about a population.	Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and	3		1	Yes	0	No

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7SP2008	7	Use random sampling to draw inferences about a population.	Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions. For example, estimate the mean word length in a book by randomly sampling words from the book; predict the winner of a school election based on randomly sampled survey data. Gauge how far	2		3		2	
7SP2014	7	Use random sampling to draw inferences about a population.	Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions. For example, estimate the mean word length in a book by randomly sampling words from the book; predict the winner of a school election based on randomly sampled survey data. Gauge how far	3		1	Yes	2	
7SP2015	7	Use random sampling to draw inferences about a population.	Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions. For example, estimate the mean word length in a book by randomly sampling words from the book; predict the winner of a school election based on randomly sampled survey data. Gauge how far	3		1	Yes	3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7SP3013	7	Draw informal comparative inferences about two populations.	Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability. For example, the mean height of players on the basketball team is 10 cm greater than the mean height of players on the soccer team, about twice the variability (mean absolute deviation) on either team; on	3		1	Yes	3	
7SP3019	7	Draw informal comparative inferences about two populations.	Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability. For example, the mean height of players on the basketball team is 10 cm greater than the mean height of players on the soccer team, about twice the variability (mean absolute deviation) on either team; on	2		3		2	
7SP4018	7	Draw informal comparative inferences about two populations.	Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. For example, decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a	3		3		1	Yes
7SP4020	7	Draw informal comparative inferences about two populations.	Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. For example, decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a	3		3		1	Yes

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7SP5005	7	Investigate chance processes and develop, use, and evaluate probability models.	Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a	3		1	Yes	3	
7SP5017	7	Investigate chance processes and develop, use, and evaluate probability models.	Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a	2		1	Yes	2	
7SP6006	7	Investigate chance processes and develop, use, and evaluate probability models.	Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability. For example, when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200	3		3		3	
7SP6007	7	Investigate chance processes and develop, use, and evaluate probability models.	Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability. For example, when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7SP6018	7	Investigate chance processes and develop, use, and evaluate probability models.	Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability. For example, when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200	3		3		2	
7SP7019	7	Investigate chance processes and develop, use, and evaluate probability models.	Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy. a. Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events. For example, if a student is selected at random from a class, find the probability that Jane will be selected and the probability that a girl will be selected. b. Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process. For example, find the approximate probability that a spinning penny will land heads up or that a tossed paper cup	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7SP7020	7	Investigate chance processes and develop, use, and evaluate probability models.	Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy. a. Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events. For example, if a student is selected at random from a class, find the probability that Jane will be selected and the probability that a girl will be selected. b. Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process. For example, find the approximate probability that a spinning penny will land heads up or that a tossed paper cup	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7SP8003	7	Investigate chance processes and develop, use, and evaluate probability models.	Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation. a. Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs. b. Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language (e.g., ?rolling double sixes?), identify the outcomes in the sample space which compose the event. c. Design and use a simulation to generate frequencies for compound events. For example, use random	3		3		2	
7SP8015	7	Investigate chance processes and develop, use, and evaluate probability models.	Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation. a. Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs. b. Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language (e.g., ?rolling double sixes?), identify the outcomes in the sample space which compose the event. c. Design and use a simulation to generate frequencies for compound events. For example, use random	3		3		2	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7EE1005	7	Use properties of operations to generate equivalent expressions.	Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.	3		3		3	
7EE1016	7	Use properties of operations to generate equivalent expressions.	Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.	3		3		3	
7EE1017	7	Use properties of operations to generate equivalent expressions.	Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.	3		3		3	
7EE1019	7	Use properties of operations to generate equivalent expressions.	Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.	3		3		3	
7EE1044	7	Use properties of operations to generate equivalent expressions.	Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.	3		3		1	Yes
7EE2001	7	Use properties of operations to generate equivalent expressions.	Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. For example, a + 0.05a = 1.05a means that ?increase by	3		3		3	
7EE2015	7	Use properties of operations to generate equivalent expressions.	Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. For example, a + 0.05a = 1.05a means that ?increase by	3		3		3	
7EE2022	7	Use properties of operations to generate equivalent expressions.	Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. For example, a + 0.05a = 1.05a means that ?increase by	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7EE2033	7	Use properties of operations to generate equivalent expressions.	Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. For example, a + 0.05a = 1.05a means that ?increase by	3		3		3	
7EE3006	7	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9	2		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7EE3022	7	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9	3		3		3	
7EE3023	7	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9	1	Yes	0	Yes	2	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7EE3030	7	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9	3		2		3	
7EE3045	7	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7EE4014	7	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. a. Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width? b. Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7EE4031	7	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. a. Solve word problems leading to equations of the form px + q = r and p(x + q) = r, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width? b. Solve word problems leading to inequalities of the form px + q > r or px + q < r, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7EE4035	7	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. a. Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width? b. Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of	3		1	Yes	1	Yes

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7EE4039	7	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. a. Solve word problems leading to equations of the form px + q = r and p(x + q) = r, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width? b. Solve word problems leading to inequalities of the form px + q > r or px + q < r, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of	3		2		3	
7G1007	7	Draw, construct, and describe geometrical figures and describe the relationships between them.	Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different	3		2		3	
7G1020	7	Draw, construct, and describe geometrical figures and describe the relationships between them.	Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different	3		3		3	
7G1024	7	Draw, construct, and describe geometrical figures and describe the relationships between them.	Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7G2004	7	Draw, construct, and describe geometrical figures and describe the relationships between them.	Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more	1	Yes	2		2	
7G2011	7	Draw, construct, and describe geometrical figures and describe the relationships between them.	Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more	3		2		3	
7G2025	7	Draw, construct, and describe geometrical figures and describe the relationships between them.	Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more	3		2		3	
7G3008	7	Draw, construct, and describe geometrical figures and describe the relationships between them.	Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.	1	Yes	3		1	No
7G3011	7	Draw, construct, and describe geometrical figures and describe the relationships between them.	Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.	3		3		3	
7G3026	7	Draw, construct, and describe geometrical figures and describe the relationships between them.	Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7G4007	7	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.	3		3		3	
7G4010	7	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.	3		3		3	
7G4029	7	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.	3		3		3	
7G5003	7	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.	3		2		3	
7G5005	7	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.	3		2		3	
7G5009	7	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7G6005	7	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.	3		3		3	
7G6022	7	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.	2		1	No	3	
7G6023	7	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.	3		2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS1013	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. a. Describe situations in which opposite quantities combine to make 0. For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged. b. Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts. c. Understand subtraction of rational numbers as adding the additive inverse, p ? q = p + (?q). Show that the distance between	3		2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS1020	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. a. Describe situations in which opposite quantities combine to make 0. For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged. b. Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts. c. Understand subtraction of rational numbers as adding the additive inverse, p ? q = p + (?q). Show that the distance between	3		2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS1027	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. a. Describe situations in which opposite quantities combine to make 0. For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged. b. Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts. c. Understand subtraction of rational numbers as adding the additive inverse, p ? q = p + (?q). Show that the distance between	3		3		1	Yes

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS1030	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. a. Describe situations in which opposite quantities combine to make 0. For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged. b. Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts. c. Understand subtraction of rational numbers as adding the additive inverse, p ? q = p + (?q). Show that the distance between	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS1050	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. a. Describe situations in which opposite quantities combine to make 0. For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged. b. Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts. c. Understand subtraction of rational numbers as adding the additive inverse, p ? q = p + (?q). Show that the distance between	1	Yes	0	No	3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS1058	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. a. Describe situations in which opposite quantities combine to make 0. For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged. b. Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts. c. Understand subtraction of rational numbers as adding the additive inverse, p ? q = p + (?q). Show that the distance between	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS2007	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (?1)(?1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts. b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then ?(p/q) = (?p)/q = p/(?q). Interpret quotients of rational numbers by describing realworld contexts.	3		3		2	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS2014	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (?1)(?1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts. b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then ?(p/q) = (?p)/q = p/(?q). Interpret quotients of rational numbers by describing realworld contexts.	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS2016	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (?1)(?1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts. b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then ?(p/q) = (?p)/q = p/(?q). Interpret quotients of rational numbers by describing realworld contexts.	3		2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS2043	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (?1)(?1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts. b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then ?(p/q) = (?p)/q = p/(?q). Interpret quotients of rational numbers by describing realworld contexts.	0	No	3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS2044	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (?1)(?1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts. b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then ?(p/q) = (?p)/q = p/(?q). Interpret quotients of rational numbers by describing realworld contexts.	2		2		2	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS2053	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (?1)(?1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts. b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then ?(p/q) = (?p)/q = p/(?q). Interpret quotients of rational numbers by describing realworld contexts.	3		2		2	
7NS3005	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Solve real-world and mathematical problems involving the four operations with rational numbers. Computations with rational numbers extend the rules for manipulating fractions to complex fractions.	3		3		3	
7NS3025	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Solve real-world and mathematical problems involving the four operations with rational numbers. Computations with rational numbers extend the rules for manipulating fractions to complex fractions.	3		1	No	3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS3026	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Solve real-world and mathematical problems involving the four operations with rational numbers. Computations with rational numbers extend the rules for manipulating fractions to complex fractions.	3		1	No	3	
7NS3032	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Solve real-world and mathematical problems involving the four operations with rational numbers. Computations with rational numbers extend the rules for manipulating fractions to complex fractions.	3		3		3	
7NS3033	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Solve real-world and mathematical problems involving the four operations with rational numbers. Computations with rational numbers extend the rules for manipulating fractions to complex fractions.	3		3		1	Yes
7NS3050	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Solve real-world and mathematical problems involving the four operations with rational numbers. Computations with rational numbers extend the rules for manipulating fractions to complex fractions.	3		1	Yes	3	
7RP1004	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction 1/2/1/4	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7RP1023	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction 1/2/1/4	3		3		3	
7RP1029	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction 1/2/1/4	3		3		3	
7RP1039	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction 1/2/1/4	3		3		3	
7RP1040	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction 1/2/1/4	3		3		3	
7RP1057	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction 1/2/1/4	1	Yes	1	No	1	Yes

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7RP2002	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Recognize and represent proportional relationships between quantities. a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin. b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. c. Represent proportional relationships by equations. For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7RP2029	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Recognize and represent proportional relationships between quantities. a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin. b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. c. Represent proportional relationships by equations. For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the	3		1	No	1	Yes

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7RP2047	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Recognize and represent proportional relationships between quantities. a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin. b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. c. Represent proportional relationships by equations. For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the	3		0	No	1	Yes

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7RP2048	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Recognize and represent proportional relationships between quantities. a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin. b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. c. Represent proportional relationships by equations. For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the	3		2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7RP2049	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Recognize and represent proportional relationships between quantities. a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin. b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. c. Represent proportional relationships by equations. For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the	3		2		2	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7RP2055	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Recognize and represent proportional relationships between quantities. a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin. b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. c. Represent proportional relationships by equations. For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the	0	No	0	No	3	
7RP3006	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent	3		3		3	
7RP3008	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent	3		3		3	
7RP3009	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent	1	Yes	3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7RP3011	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent	3		3		3	
7RP3023	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent	3		3		3	
7RP3037	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent	3		1	Yes	3	
7SP1004	7	Use random sampling to draw inferences about a population.	Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and	3		3		3	
7SP1016	7	Use random sampling to draw inferences about a population.	Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7SP2010	7	Use random sampling to draw inferences about a population.	Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions. For example, estimate the mean word length in a book by randomly sampling words from the book; predict the winner of a school election based on randomly sampled survey data. Gauge how far	3		3		2	
7SP2020	7	Use random sampling to draw inferences about a population.	Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions. For example, estimate the mean word length in a book by randomly sampling words from the book; predict the winner of a school election based on randomly sampled survey data. Gauge how far	3		3		2	
7SP3006	7	Draw informal comparative inferences about two populations.	Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability. For example, the mean height of players on the basketball team is 10 cm greater than the mean height of players on the soccer team, about twice the variability (mean absolute deviation) on either team; on	3		2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7SP3007	7	Draw informal comparative inferences about two populations.	Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability. For example, the mean height of players on the basketball team is 10 cm greater than the mean height of players on the soccer team, about twice the variability (mean absolute deviation) on either team; on	3		2		3	
7SP4003	7	Draw informal comparative inferences about two populations.	Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. For example, decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a	3		3		2	
7SP4005	7	Draw informal comparative inferences about two populations.	Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. For example, decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a	3		3		2	
7SP4007	7	Draw informal comparative inferences about two populations.	Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. For example, decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a	2		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7SP5006	7	Investigate chance processes and develop, use, and evaluate probability models.	Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a	3		3		3	
7SP5024	7	Investigate chance processes and develop, use, and evaluate probability models.	Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a	3		1	Yes	2	
7SP6015	7	Investigate chance processes and develop, use, and evaluate probability models.	Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability. For example, when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200	3		3		3	
7SP6024	7	Investigate chance processes and develop, use, and evaluate probability models.	Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability. For example, when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200	1	Yes	3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7SP7001	7	Investigate chance processes and develop, use, and evaluate probability models.	Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy. a. Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events. For example, if a student is selected at random from a class, find the probability that Jane will be selected and the probability that a girl will be selected. b. Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process. For example, find the approximate probability that a spinning penny will land heads up or that a tossed paper cup	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7SP7016	7	Investigate chance processes and develop, use, and evaluate probability models.	Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy. a. Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events. For example, if a student is selected at random from a class, find the probability that Jane will be selected and the probability that a girl will be selected. b. Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process. For example, find the approximate probability that a spinning penny will land heads up or that a tossed paper cup	3		1	Yes	3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7SP7024	7	Investigate chance processes and develop, use, and evaluate probability models.	Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy. a. Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events. For example, if a student is selected at random from a class, find the probability that Jane will be selected and the probability that a girl will be selected. b. Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process. For example, find the approximate probability that a spinning penny will land heads up or that a tossed paper cup	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7SP8010	7	Investigate chance processes and develop, use, and evaluate probability models.	Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation. a. Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs. b. Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language (e.g., ?rolling double sixes?), identify the outcomes in the sample space which compose the event. c. Design and use a simulation to generate frequencies for compound events. For example, use random	3		0	No	2	
7SP8019	7	Investigate chance processes and develop, use, and evaluate probability models.	Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation. a. Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs. b. Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language (e.g., ?rolling double sixes?), identify the outcomes in the sample space which compose the event. c. Design and use a simulation to generate frequencies for compound events. For example, use random	1	Yes	1	Yes	1	Yes

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7EE1014	7	Use properties of operations to generate equivalent expressions.	Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.	3		2		3	
7EE1021	7	Use properties of operations to generate equivalent expressions.	Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.	3		2		3	
7EE1031	7	Use properties of operations to generate equivalent expressions.	Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.	3		3		3	
7EE1032	7	Use properties of operations to generate equivalent expressions.	Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.	3		2		3	
7EE1043	7	Use properties of operations to generate equivalent expressions.	Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.	3		3		3	
7EE2016	7	Use properties of operations to generate equivalent expressions.	Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. For example, a + 0.05a = 1.05a means that ?increase by	2		3		3	
7EE2026	7	Use properties of operations to generate equivalent expressions.	Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. For example, a + 0.05a = 1.05a means that ?increase by	2		2		3	
7EE2034	7	Use properties of operations to generate equivalent expressions.	Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. For example, a + 0.05a = 1.05a means that ?increase by	2		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7EE2035	7	Use properties of operations to generate equivalent expressions.	Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. For example, a + 0.05a = 1.05a means that ?increase by	2		3		3	
7EE3005	7	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9	1	No	3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7EE3025	7	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9	3		2		3	
7EE3033	7	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7EE3037	7	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9	3		3		3	
7EE3038	7	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7EE4016	7	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. a. Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width? b. Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7EE4023	7	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. a. Solve word problems leading to equations of the form px + q = r and p(x + q) = r, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width? b. Solve word problems leading to inequalities of the form px + q > r or px + q < r, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of	0	No	2		1	Yes

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7EE4037	7	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. a. Solve word problems leading to equations of the form px + q = r and p(x + q) = r, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width? b. Solve word problems leading to inequalities of the form px + q > r or px + q < r, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7EE4045	7	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. a. Solve word problems leading to equations of the form px + q = r and p(x + q) = r, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width? b. Solve word problems leading to inequalities of the form px + q > r or px + q < r, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of	2		3		3	
7G1017	7	Draw, construct, and describe geometrical figures and describe the relationships between them.	Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different	3		3		3	
7G1026	7	Draw, construct, and describe geometrical figures and describe the relationships between them.	Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different	3		3		3	
7G1028	7	Draw, construct, and describe geometrical figures and describe the relationships between them.	Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different	2		2		1	Yes

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7G2013	7	Draw, construct, and describe geometrical figures and describe the relationships between them.	Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more	2		3		3	
7G2014	7	Draw, construct, and describe geometrical figures and describe the relationships between them.	Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more	2		3		3	
7G2018	7	Draw, construct, and describe geometrical figures and describe the relationships between them.	Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more	2		3		3	
7G3006	7	Draw, construct, and describe geometrical figures and describe the relationships between them.	Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.	3		3		3	
7G3009	7	Draw, construct, and describe geometrical figures and describe the relationships between them.	Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.	3		2		2	
7G3024	7	Draw, construct, and describe geometrical figures and describe the relationships between them.	Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.	3		2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7G4004	7	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.	3		2		3	
7G4011	7	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.	3		2		3	
7G4023	7	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.	3		2		3	
7G5016	7	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.	3		3		3	
7G5025	7	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.	3		2		3	
7G5026	7	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.	2		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7G6002	7	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.	3		1	Yes	2	
7G6018	7	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.	3		3		2	
7G6025	7	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.	1	No	2		2	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS1004	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. a. Describe situations in which opposite quantities combine to make 0. For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged. b. Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts. c. Understand subtraction of rational numbers as adding the additive inverse, p ? q = p + (?q). Show that the distance between	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS1007	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. a. Describe situations in which opposite quantities combine to make 0. For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged. b. Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts. c. Understand subtraction of rational numbers as adding the additive inverse, p ? q = p + (?q). Show that the distance between	2		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS1028	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. a. Describe situations in which opposite quantities combine to make 0. For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged. b. Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts. c. Understand subtraction of rational numbers as adding the additive inverse, p ? q = p + (?q). Show that the distance between	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS1040	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. a. Describe situations in which opposite quantities combine to make 0. For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged. b. Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts. c. Understand subtraction of rational numbers as adding the additive inverse, p ? q = p + (?q). Show that the distance between	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS1047	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. a. Describe situations in which opposite quantities combine to make 0. For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged. b. Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts. c. Understand subtraction of rational numbers as adding the additive inverse, p ? q = p + (?q). Show that the distance between	3		2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS1051	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. a. Describe situations in which opposite quantities combine to make 0. For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged. b. Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts. c. Understand subtraction of rational numbers as adding the additive inverse, p ? q = p + (?q). Show that the distance between	3		2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS2015	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (?1)(?1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts. b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then ?(p/q) = (?p)/q = p/(?q). Interpret quotients of rational numbers by describing realworld contexts.	3		2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS2021	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (?1)(?1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts. b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then ?(p/q) = (?p)/q = p/(?q). Interpret quotients of rational numbers by describing realworld contexts.	3		2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS2026	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (?1)(?1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts. b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then ?(p/q) = (?p)/q = p/(?q). Interpret quotients of rational numbers by describing realworld contexts.	3		2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS2034	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (?1)(?1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts. b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then ?(p/q) = (?p)/q = p/(?q). Interpret quotients of rational numbers by describing realworld contexts.	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS2056	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (?1)(?1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts. b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then ?(p/q) = (?p)/q = p/(?q). Interpret quotients of rational numbers by describing realworld contexts.	3		2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS2057	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (?1)(?1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts. b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then ?(p/q) = (?p)/q = p/(?q). Interpret quotients of rational numbers by describing realworld contexts.	3		2		3	
7NS3001	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Solve real-world and mathematical problems involving the four operations with rational numbers. Computations with rational numbers extend the rules for manipulating fractions to complex fractions.	3		3		3	
7NS3016	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Solve real-world and mathematical problems involving the four operations with rational numbers. Computations with rational numbers extend the rules for manipulating fractions to complex fractions.	3		2		2	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS3027	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Solve real-world and mathematical problems involving the four operations with rational numbers. Computations with rational numbers extend the rules for manipulating fractions to complex fractions.	3		2		2	
7NS3031	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Solve real-world and mathematical problems involving the four operations with rational numbers. Computations with rational numbers extend the rules for manipulating fractions to complex fractions.	3		2		2	
7NS3034	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Solve real-world and mathematical problems involving the four operations with rational numbers. Computations with rational numbers extend the rules for manipulating fractions to complex fractions.	2		3		3	
7NS3059	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Solve real-world and mathematical problems involving the four operations with rational numbers. Computations with rational numbers extend the rules for manipulating fractions to complex fractions.	3		3		3	
7RP1006	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction 1/2/1/4	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7RP1013	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction 1/2/1/4	2		1	Yes	3	
7RP1019	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction 1/2/1/4	3		2		3	
7RP1037	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction 1/2/1/4	3		2		3	
7RP1038	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction 1/2/1/4	3		2		3	
7RP1047	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction 1/2/1/4	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7RP2005	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Recognize and represent proportional relationships between quantities. a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin. b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. c. Represent proportional relationships by equations. For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7RP2010	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Recognize and represent proportional relationships between quantities. a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin. b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. c. Represent proportional relationships by equations. For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7RP2023	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Recognize and represent proportional relationships between quantities. a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin. b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. c. Represent proportional relationships by equations. For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the	3		1	Yes	3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7RP2024	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Recognize and represent proportional relationships between quantities. a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin. b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. c. Represent proportional relationships by equations. For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the	2		2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7RP2031	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Recognize and represent proportional relationships between quantities. a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin. b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. c. Represent proportional relationships by equations. For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the	3		1	Yes	3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7RP2059	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Recognize and represent proportional relationships between quantities. a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin. b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. c. Represent proportional relationships by equations. For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the	3		2		3	
7RP3007	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent	3		3		3	
7RP3021	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent	3		3		3	
7RP3030	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7RP3039	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent	3		3		3	
7RP3045	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent	3		3		2	
7RP3050	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent	3		3		3	
7SP1008	7	Use random sampling to draw inferences about a population.	Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and	2		2		3	
7SP1011	7	Use random sampling to draw inferences about a population.	Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7SP2001	7	Use random sampling to draw inferences about a population.	Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions. For example, estimate the mean word length in a book by randomly sampling words from the book; predict the winner of a school election based on randomly sampled survey data. Gauge how far	3		3		2	
7SP2018	7	Use random sampling to draw inferences about a population.	Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions. For example, estimate the mean word length in a book by randomly sampling words from the book; predict the winner of a school election based on randomly sampled survey data. Gauge how far	3		3		2	
7SP3012	7	Draw informal comparative inferences about two populations.	Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability. For example, the mean height of players on the basketball team is 10 cm greater than the mean height of players on the soccer team, about twice the variability (mean absolute deviation) on either team; on	1	Yes	3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7SP3017	7	Draw informal comparative inferences about two populations.	Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability. For example, the mean height of players on the basketball team is 10 cm greater than the mean height of players on the soccer team, about twice the variability (mean absolute deviation) on either team; on	2		3		3	
7SP4010	7	Draw informal comparative inferences about two populations.	Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. For example, decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a	3		3		3	
7SP4015	7	Draw informal comparative inferences about two populations.	Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. For example, decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a	3		3		3	
7SP5004	7	Investigate chance processes and develop, use, and evaluate probability models.	Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a	1	Yes	3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7SP5012	7	Investigate chance processes and develop, use, and evaluate probability models.	Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a	3		3		3	
7SP5019	7	Investigate chance processes and develop, use, and evaluate probability models.	Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a	3		3		3	
7SP6003	7	Investigate chance processes and develop, use, and evaluate probability models.	Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability. For example, when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200	3		3		3	
7SP6011	7	Investigate chance processes and develop, use, and evaluate probability models.	Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability. For example, when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7SP7007	7	Investigate chance processes and develop, use, and evaluate probability models.	Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy. a. Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events. For example, if a student is selected at random from a class, find the probability that Jane will be selected and the probability that a girl will be selected. b. Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process. For example, find the approximate probability that a spinning penny will land heads up or that a tossed paper cup	2		3		2	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7SP7014	7	Investigate chance processes and develop, use, and evaluate probability models.	Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy. a. Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events. For example, if a student is selected at random from a class, find the probability that Jane will be selected and the probability that a girl will be selected. b. Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process. For example, find the approximate probability that a spinning penny will land heads up or that a tossed paper cup	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7SP7021	7	Investigate chance processes and develop, use, and evaluate probability models.	Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy. a. Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events. For example, if a student is selected at random from a class, find the probability that Jane will be selected and the probability that a girl will be selected. b. Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process. For example, find the approximate probability that a spinning penny will land heads up or that a tossed paper cup	2		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7SP8012	7	Investigate chance processes and develop, use, and evaluate probability models.	Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation. a. Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs. b. Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language (e.g., ?rolling double sixes?), identify the outcomes in the sample space which compose the event. c. Design and use a simulation to generate frequencies for compound events. For example, use random	2		3		3	
7SP8016	7	Investigate chance processes and develop, use, and evaluate probability models.	Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation. a. Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs. b. Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language (e.g., ?rolling double sixes?), identify the outcomes in the sample space which compose the event. c. Design and use a simulation to generate frequencies for compound events. For example, use random	1	No	3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7EE1008	7	Use properties of operations to generate equivalent expressions.	Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.	3		3		2	
7EE1009	7	Use properties of operations to generate equivalent expressions.	Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.	3		3		3	
7EE1015	7	Use properties of operations to generate equivalent expressions.	Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.	3		3		3	
7EE1036	7	Use properties of operations to generate equivalent expressions.	Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.	3		3		3	
7EE2006	7	Use properties of operations to generate equivalent expressions.	Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. For example, a + 0.05a = 1.05a means that ?increase by	3		1	Yes	3	
7EE2019	7	Use properties of operations to generate equivalent expressions.	Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. For example, a + 0.05a = 1.05a means that ?increase by	3		3		3	
7EE2025	7	Use properties of operations to generate equivalent expressions.	Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. For example, a + 0.05a = 1.05a means that ?increase by	3		2		3	
7EE2028	7	Use properties of operations to generate equivalent expressions.	Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. For example, a + 0.05a = 1.05a means that ?increase by	1	No	3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7EE2038	7	Use properties of operations to generate equivalent expressions.	Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. For example, a + 0.05a = 1.05a means that ?increase by	3		1	Yes	3	
7EE3010	7	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9	3		3		2	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7EE3012	7	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9	3		3		2	
7EE3017	7	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9	3		3		2	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7EE3043	7	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9	2		3		2	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7EE4010	7	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. a. Solve word problems leading to equations of the form px + q = r and p(x + q) = r, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width? b. Solve word problems leading to inequalities of the form px + q > r or px + q < r, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7EE4013	7	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. a. Solve word problems leading to equations of the form px + q = r and p(x + q) = r, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width? b. Solve word problems leading to inequalities of the form px + q > r or px + q < r, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7EE4017	7	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. a. Solve word problems leading to equations of the form px + q = r and p(x + q) = r, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width? b. Solve word problems leading to inequalities of the form px + q > r or px + q < r, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7EE4028	7	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. a. Solve word problems leading to equations of the form px + q = r and p(x + q) = r, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width? b. Solve word problems leading to inequalities of the form px + q > r or px + q < r, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of	3		1	No	2	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7EE4044	7	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. a. Solve word problems leading to equations of the form px + q = r and p(x + q) = r, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width? b. Solve word problems leading to inequalities of the form px + q > r or px + q < r, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of	3		3		3	
7G1008	7	Draw, construct, and describe geometrical figures and describe the relationships between them.	Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different	3		2		3	
7G1012	7	Draw, construct, and describe geometrical figures and describe the relationships between them.	Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different	2		2		3	
7G1029	7	Draw, construct, and describe geometrical figures and describe the relationships between them.	Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different	2		2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7G2010	7	Draw, construct, and describe geometrical figures and describe the relationships between them.	Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more	3		1	No	3	
7G2023	7	Draw, construct, and describe geometrical figures and describe the relationships between them.	Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more	3		2		3	
7G2029	7	Draw, construct, and describe geometrical figures and describe the relationships between them.	Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more	3		1	Yes	3	
7G3001	7	Draw, construct, and describe geometrical figures and describe the relationships between them.	Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.	1	Yes	3		3	
7G3023	7	Draw, construct, and describe geometrical figures and describe the relationships between them.	Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.	1	Yes	3		3	
7G3029	7	Draw, construct, and describe geometrical figures and describe the relationships between them.	Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.	1	Yes	3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7G4005	7	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.	3		3		2	
7G4012	7	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.	3		3		2	
7G4020	7	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.	3		3		3	
7G5006	7	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.	0	Yes	3		3	
7G5022	7	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.	3		3		3	
7G5028	7	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7G6009	7	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.	3		3		1	Yes
7G6012	7	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.	3		3		3	
7G6017	7	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS1008	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. a. Describe situations in which opposite quantities combine to make 0. For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged. b. Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts. c. Understand subtraction of rational numbers as adding the additive inverse, p ? q = p + (?q). Show that the distance between	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS1012	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. a. Describe situations in which opposite quantities combine to make 0. For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged. b. Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts. c. Understand subtraction of rational numbers as adding the additive inverse, p ? q = p + (?q). Show that the distance between	3		3		2	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS1035	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. a. Describe situations in which opposite quantities combine to make 0. For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged. b. Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts. c. Understand subtraction of rational numbers as adding the additive inverse, p ? q = p + (?q). Show that the distance between	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS1039	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. a. Describe situations in which opposite quantities combine to make 0. For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged. b. Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts. c. Understand subtraction of rational numbers as adding the additive inverse, p ? q = p + (?q). Show that the distance between	3		3		2	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS1048	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. a. Describe situations in which opposite quantities combine to make 0. For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged. b. Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts. c. Understand subtraction of rational numbers as adding the additive inverse, p ? q = p + (?q). Show that the distance between	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS1057	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. a. Describe situations in which opposite quantities combine to make 0. For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged. b. Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts. c. Understand subtraction of rational numbers as adding the additive inverse, p ? q = p + (?q). Show that the distance between	3		3		2	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS2002	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (?1)(?1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts. b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then ?(p/q) = (?p)/q = p/(?q). Interpret quotients of rational numbers by describing realworld contexts.	3		3		2	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS2008	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (?1)(?1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts. b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then ?(p/q) = (?p)/q = p/(?q). Interpret quotients of rational numbers by describing realworld contexts.	3		3		2	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS2025	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (?1)(?1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts. b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then ?(p/q) = (?p)/q = p/(?q). Interpret quotients of rational numbers by describing realworld contexts.	3		3		2	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS2033	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (?1)(?1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts. b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then ?(p/q) = (?p)/q = p/(?q). Interpret quotients of rational numbers by describing realworld contexts.	3		3		2	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS2049	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (?1)(?1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts. b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then ?(p/q) = (?p)/q = p/(?q). Interpret quotients of rational numbers by describing realworld contexts.	3		2		1	Yes

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS2055	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (?1)(?1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts. b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then ?(p/q) = (?p)/q = p/(?q). Interpret quotients of rational numbers by describing realworld contexts.	3		3		3	
7NS3010	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Solve real-world and mathematical problems involving the four operations with rational numbers. Computations with rational numbers extend the rules for manipulating fractions to complex fractions.	3		3		3	
7NS3013	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Solve real-world and mathematical problems involving the four operations with rational numbers. Computations with rational numbers extend the rules for manipulating fractions to complex fractions.	3		3		1	Yes

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS3019	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Solve real-world and mathematical problems involving the four operations with rational numbers. Computations with rational numbers extend the rules for manipulating fractions to complex fractions.	3		3		2	
7NS3034	7			3		2		3	
7NS3048	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Solve real-world and mathematical problems involving the four operations with rational numbers. Computations with rational numbers extend the rules for manipulating fractions to complex fractions.	3		3		2	
7NS3056	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Solve real-world and mathematical problems involving the four operations with rational numbers. Computations with rational numbers extend the rules for manipulating fractions to complex fractions.	3		3		2	
7RP1009	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction 1/2/1/4	3		3		3	
7RP1024	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction 1/2/1/4	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7RP1031	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction 1/2/1/4	3		3		3	
7RP1042	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction 1/2/1/4	3		1	No	3	
7RP1052	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction 1/2/1/4	3		2		3	
7RP1060	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction 1/2/1/4	2		2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7RP2003	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Recognize and represent proportional relationships between quantities. a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin. b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. c. Represent proportional relationships by equations. For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the	3		3		2	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7RP2013	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Recognize and represent proportional relationships between quantities. a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin. b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. c. Represent proportional relationships by equations. For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7RP2020	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Recognize and represent proportional relationships between quantities. a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin. b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. c. Represent proportional relationships by equations. For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the	2		2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7RP2026	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Recognize and represent proportional relationships between quantities. a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin. b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. c. Represent proportional relationships by equations. For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7RP2043	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Recognize and represent proportional relationships between quantities. a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin. b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. c. Represent proportional relationships by equations. For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the	3		3		1	Yes

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7RP2058	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Recognize and represent proportional relationships between quantities. a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin. b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. c. Represent proportional relationships by equations. For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the	3		2		2	
7RP3004	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent	3		3		3	
7RP3012	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent	3		3		3	
7RP3014	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent	3		3		2	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7RP3017	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent	3		3		2	
7RP3031	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent	3		3		3	
7RP3053	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent	1	Yes	1	Yes	2	
7SP1006	7	Use random sampling to draw inferences about a population.	Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and	3		3		3	
7SP1012	7	Use random sampling to draw inferences about a population.	Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and	1	Yes	3		2	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7SP2003	7	Use random sampling to draw inferences about a population.	Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions. For example, estimate the mean word length in a book by randomly sampling words from the book; predict the winner of a school election based on randomly sampled survey data. Gauge how far	3		3		3	
7SP2006	7	Use random sampling to draw inferences about a population.	Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions. For example, estimate the mean word length in a book by randomly sampling words from the book; predict the winner of a school election based on randomly sampled survey data. Gauge how far	3		3		3	
7SP3002	7	Draw informal comparative inferences about two populations.	Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability. For example, the mean height of players on the basketball team is 10 cm greater than the mean height of players on the soccer team, about twice the variability (mean absolute deviation) on either team; on	1	Yes	2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7SP3010	7	Draw informal comparative inferences about two populations.	Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability. For example, the mean height of players on the basketball team is 10 cm greater than the mean height of players on the soccer team, about twice the variability (mean absolute deviation) on either team; on	3		3		3	
7SP4001	7	Draw informal comparative inferences about two populations.	Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. For example, decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a	2		3		3	
7SP4009	7	Draw informal comparative inferences about two populations.	Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. For example, decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a	3		3		3	
7SP5003	7	Investigate chance processes and develop, use, and evaluate probability models.	Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a	2		3		2	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7SP5013	7	Investigate chance processes and develop, use, and evaluate probability models.	Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a	3		3		2	
7SP5023	7	Investigate chance processes and develop, use, and evaluate probability models.	Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a	3		3		2	
7SP6002	7	Investigate chance processes and develop, use, and evaluate probability models.	Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability. For example, when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200	3		2		3	
7SP6013	7	Investigate chance processes and develop, use, and evaluate probability models.	Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability. For example, when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200	3		2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7SP7003	7	Investigate chance processes and develop, use, and evaluate probability models.	Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy. a. Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events. For example, if a student is selected at random from a class, find the probability that Jane will be selected and the probability that a girl will be selected. b. Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process. For example, find the approximate probability that a spinning penny will land heads up or that a tossed paper cup	2		3		2	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7SP7008	7	Investigate chance processes and develop, use, and evaluate probability models.	Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy. a. Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events. For example, if a student is selected at random from a class, find the probability that Jane will be selected and the probability that a girl will be selected. b. Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process. For example, find the approximate probability that a spinning penny will land heads up or that a tossed paper cup	3		3		2	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7SP8001	7	Investigate chance processes and develop, use, and evaluate probability models.	Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation. a. Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs. b. Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language (e.g., ?rolling double sixes?), identify the outcomes in the sample space which compose the event. c. Design and use a simulation to generate frequencies for compound events. For example, use random	3		3		3	
7SP8006	7	Investigate chance processes and develop, use, and evaluate probability models.	Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation. a. Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs. b. Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language (e.g., ?rolling double sixes?), identify the outcomes in the sample space which compose the event. c. Design and use a simulation to generate frequencies for compound events. For example, use random	3		2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7SP8021	7	Investigate chance processes and develop, use, and evaluate probability models.	Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation. a. Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs. b. Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language (e.g., ?rolling double sixes?), identify the outcomes in the sample space which compose the event. c. Design and use a simulation to generate frequencies for compound events. For example, use random	3		3		3	
7EE1001	7	Use properties of operations to generate equivalent expressions.	Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.	3		2		3	
7EE1007	7	Use properties of operations to generate equivalent expressions.	Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.	3		2		3	
7EE1027	7	Use properties of operations to generate equivalent expressions.	Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.	3		2		0	Yes
7EE1041	7	Use properties of operations to generate equivalent expressions.	Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.	3		2		0	Yes
7EE1043	7			3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7EE2005	7	Use properties of operations to generate equivalent expressions.	Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. For example, a + 0.05a = 1.05a means that ?increase by	3		3		3	
7EE2010	7	Use properties of operations to generate equivalent expressions.	Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. For example, a + 0.05a = 1.05a means that ?increase by	3		3		3	
7EE2013	7	Use properties of operations to generate equivalent expressions.	Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. For example, a + 0.05a = 1.05a means that ?increase by	3		3		3	
7EE2023	7	Use properties of operations to generate equivalent expressions.	Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. For example, a + 0.05a = 1.05a means that ?increase by	2		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7EE3002	7	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9	3		2		3	
7EE3009	7	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9	3		2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7EE3018	7	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9	3		2		3	
7EE3024	7	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9	3		1	Yes	3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7EE4004	7	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. a. Solve word problems leading to equations of the form px + q = r and p(x + q) = r, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width? b. Solve word problems leading to inequalities of the form px + q > r or px + q < r, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of	3		2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7EE4021	7	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. a. Solve word problems leading to equations of the form px + q = r and p(x + q) = r, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width? b. Solve word problems leading to inequalities of the form px + q > r or px + q < r, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of	3		2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7EE4029	7	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. a. Solve word problems leading to equations of the form px + q = r and p(x + q) = r, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width? b. Solve word problems leading to inequalities of the form px + q > r or px + q < r, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of	3		2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7EE4030	7	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. a. Solve word problems leading to equations of the form px + q = r and p(x + q) = r, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width? b. Solve word problems leading to inequalities of the form px + q > r or px + q < r, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7EE4040	7	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. a. Solve word problems leading to equations of the form px + q = r and p(x + q) = r, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width? b. Solve word problems leading to inequalities of the form px + q > r or px + q < r, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of	1	Yes	2		3	
7G1005	7	Draw, construct, and describe geometrical figures and describe the relationships between them.	Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different	3		2		3	
7G1010	7	Draw, construct, and describe geometrical figures and describe the relationships between them.	Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different	3		3		3	
7G1013	7	Draw, construct, and describe geometrical figures and describe the relationships between them.	Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different	3		2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7G2002	7	Draw, construct, and describe geometrical figures and describe the relationships between them.	Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more	2		3		3	
7G2007	7	Draw, construct, and describe geometrical figures and describe the relationships between them.	Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more	3		2		2	
7G2021	7	Draw, construct, and describe geometrical figures and describe the relationships between them.	Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more	3		3		3	
7G3003	7	Draw, construct, and describe geometrical figures and describe the relationships between them.	Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.	3		3		3	
7G3013	7	Draw, construct, and describe geometrical figures and describe the relationships between them.	Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.	0	Yes	3		2	
7G3030	7	Draw, construct, and describe geometrical figures and describe the relationships between them.	Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.	0	Yes	3		2	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7G4003	7	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.	3		3		3	
7G4014	7	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.	3		3		3	
7G4022	7	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.	3		2		3	
7G5011	7	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.	3		3		3	
7G5012	7	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.	3		3		3	
7G5029	7	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.	3		3		2	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7G6003	7	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.	3		3		3	
7G6027	7	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.	3		3		3	
7G6029	7	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS1018	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. a. Describe situations in which opposite quantities combine to make 0. For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged. b. Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts. c. Understand subtraction of rational numbers as adding the additive inverse, p ? q = p + (?q). Show that the distance between	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS1024	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. a. Describe situations in which opposite quantities combine to make 0. For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged. b. Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts. c. Understand subtraction of rational numbers as adding the additive inverse, p ? q = p + (?q). Show that the distance between	3		2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS1036	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. a. Describe situations in which opposite quantities combine to make 0. For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged. b. Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts. c. Understand subtraction of rational numbers as adding the additive inverse, p ? q = p + (?q). Show that the distance between	2		1	Yes	2	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS1038	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. a. Describe situations in which opposite quantities combine to make 0. For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged. b. Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts. c. Understand subtraction of rational numbers as adding the additive inverse, p ? q = p + (?q). Show that the distance between	3		1	Yes	3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS1045	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. a. Describe situations in which opposite quantities combine to make 0. For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged. b. Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts. c. Understand subtraction of rational numbers as adding the additive inverse, p ? q = p + (?q). Show that the distance between	3		2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS1055	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. a. Describe situations in which opposite quantities combine to make 0. For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged. b. Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts. c. Understand subtraction of rational numbers as adding the additive inverse, p ? q = p + (?q). Show that the distance between	3		3		1	Yes

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS2017	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (?1)(?1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts. b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then ?(p/q) = (?p)/q = p/(?q). Interpret quotients of rational numbers by describing realworld contexts.	3		3		1	Yes

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS2018	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (?1)(?1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts. b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then ?(p/q) = (?p)/q = p/(?q). Interpret quotients of rational numbers by describing realworld contexts.	3		2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS2024	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (?1)(?1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts. b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then ?(p/q) = (?p)/q = p/(?q). Interpret quotients of rational numbers by describing realworld contexts.	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS2037	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (?1)(?1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts. b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then ?(p/q) = (?p)/q = p/(?q). Interpret quotients of rational numbers by describing realworld contexts.	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS2038	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (?1)(?1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts. b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then ?(p/q) = (?p)/q = p/(?q). Interpret quotients of rational numbers by describing realworld contexts.	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS2050	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (?1)(?1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts. b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then ?(p/q) = (?p)/q = p/(?q). Interpret quotients of rational numbers by describing realworld contexts.	3		2		3	
7NS3011	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Solve real-world and mathematical problems involving the four operations with rational numbers. Computations with rational numbers extend the rules for manipulating fractions to complex fractions.	3		2		3	
7NS3024	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Solve real-world and mathematical problems involving the four operations with rational numbers. Computations with rational numbers extend the rules for manipulating fractions to complex fractions.	3		1	Yes	3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7NS3029	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Solve real-world and mathematical problems involving the four operations with rational numbers. Computations with rational numbers extend the rules for manipulating fractions to complex fractions.	2		3		3	
7NS3035	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Solve real-world and mathematical problems involving the four operations with rational numbers. Computations with rational numbers extend the rules for manipulating fractions to complex fractions.	3		2		3	
7NS3041	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Solve real-world and mathematical problems involving the four operations with rational numbers. Computations with rational numbers extend the rules for manipulating fractions to complex fractions.	3		2		3	
7NS3054	7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Solve real-world and mathematical problems involving the four operations with rational numbers. Computations with rational numbers extend the rules for manipulating fractions to complex fractions.	3		3		3	
7RP1008	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction 1/2/1/4	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7RP1012	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction 1/2/1/4	3		3		3	
7RP1017	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction 1/2/1/4	3		3		3	
7RP1022	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction 1/2/1/4	3		3		3	
7RP1049	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction 1/2/1/4	3		3		3	
7RP1050	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction 1/2/1/4	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7RP2006	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Recognize and represent proportional relationships between quantities. a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin. b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. c. Represent proportional relationships by equations. For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7RP2011	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Recognize and represent proportional relationships between quantities. a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin. b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. c. Represent proportional relationships by equations. For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the	3		2		2	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7RP2016	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Recognize and represent proportional relationships between quantities. a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin. b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. c. Represent proportional relationships by equations. For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the	2		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7RP2033	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Recognize and represent proportional relationships between quantities. a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin. b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. c. Represent proportional relationships by equations. For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the	3		2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7RP2053	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Recognize and represent proportional relationships between quantities. a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin. b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. c. Represent proportional relationships by equations. For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the	3		2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7RP2057	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Recognize and represent proportional relationships between quantities. a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin. b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. c. Represent proportional relationships by equations. For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the	1	Yes	3		3	
7RP3015	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent	3		3		3	
7RP3025	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent	3		2		3	
7RP3036	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent	0	Yes	3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7RP3041	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent	3		2		3	
7RP3042	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent	3		3		3	
7RP3059	7	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent	3		3		3	
7SP1018	7	Use random sampling to draw inferences about a population.	Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and	3		3		3	
7SP1020	7	Use random sampling to draw inferences about a population.	Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and	3		2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7SP2009	7	Use random sampling to draw inferences about a population.	Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions. For example, estimate the mean word length in a book by randomly sampling words from the book; predict the winner of a school election based on randomly sampled survey data. Gauge how far	3		3		3	
7SP2011	7	Use random sampling to draw inferences about a population.	Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions. For example, estimate the mean word length in a book by randomly sampling words from the book; predict the winner of a school election based on randomly sampled survey data. Gauge how far	3		2		3	
7SP3003	7	Draw informal comparative inferences about two populations.	Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability. For example, the mean height of players on the basketball team is 10 cm greater than the mean height of players on the soccer team, about twice the variability (mean absolute deviation) on either team; on	1	Yes	3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7SP3016	7	Draw informal comparative inferences about two populations.	Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability. For example, the mean height of players on the basketball team is 10 cm greater than the mean height of players on the soccer team, about twice the variability (mean absolute deviation) on either team; on	1	Yes	3		3	
7SP4013	7	Draw informal comparative inferences about two populations.	Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. For example, decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a	1	Yes	3		3	
7SP4021	7	Draw informal comparative inferences about two populations.	Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. For example, decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a	3		3		3	
7SP5011	7	Investigate chance processes and develop, use, and evaluate probability models.	Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a	2		2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7SP5015	7	Investigate chance processes and develop, use, and evaluate probability models.	Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a	1	Yes	2		3	
7SP6009	7	Investigate chance processes and develop, use, and evaluate probability models.	Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability. For example, when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200	3		3		3	
7SP6017	7	Investigate chance processes and develop, use, and evaluate probability models.	Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability. For example, when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200	3		3		3	
7SP6022	7	Investigate chance processes and develop, use, and evaluate probability models.	Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability. For example, when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200	2		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7SP7011	7	Investigate chance processes and develop, use, and evaluate probability models.	Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy. a. Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events. For example, if a student is selected at random from a class, find the probability that Jane will be selected and the probability that a girl will be selected. b. Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process. For example, find the approximate probability that a spinning penny will land heads up or that a tossed paper cup	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7SP7012	7	Investigate chance processes and develop, use, and evaluate probability models.	Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy. a. Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events. For example, if a student is selected at random from a class, find the probability that Jane will be selected and the probability that a girl will be selected. b. Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process. For example, find the approximate probability that a spinning penny will land heads up or that a tossed paper cup	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7SP8008	7	Investigate chance processes and develop, use, and evaluate probability models.	Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation. a. Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs. b. Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language (e.g., ?rolling double sixes?), identify the outcomes in the sample space which compose the event. c. Design and use a simulation to generate frequencies for compound events. For example, use random	3		3		3	
7SP8018	7	Investigate chance processes and develop, use, and evaluate probability models.	Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation. a. Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs. b. Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language (e.g., ?rolling double sixes?), identify the outcomes in the sample space which compose the event. c. Design and use a simulation to generate frequencies for compound events. For example, use random	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
7SP8022	7	Investigate chance processes and develop, use, and evaluate probability models.	Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation. a. Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs. b. Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language (e.g., ?rolling double sixes?), identify the outcomes in the sample space which compose the event. c. Design and use a simulation to generate frequencies for compound events. For example, use random	3		3		3	
8EE1002	8	Work with radicals and integer exponents.	Know and apply the properties of integer exponents to generate equivalent numerical expressions. For example, 32 × 3?5 = 3?3 = 1/33 = 1/27.	3		3		3	
8EE1012	8	Work with radicals and integer exponents.	Know and apply the properties of integer exponents to generate equivalent numerical expressions. For example, 32 × 3?5 = 3?3 = 1/33 = 1/27.	3		3		3	
8EE1022	8	Work with radicals and integer exponents.	Know and apply the properties of integer exponents to generate equivalent numerical expressions. For example, 32 × 3?5 = 3?3 = 1/33 = 1/27.	3		3		3	
8EE2006	8	Work with radicals and integer exponents.	Use square root and cube root symbols to represent solutions to equations of the form x2 = p and x3 = p, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8EE2018	8	Work with radicals and integer exponents.	Use square root and cube root symbols to represent solutions to equations of the form x2 = p and x3 = p, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots	3		2		3	
8EE3003	8	Work with radicals and integer exponents.	Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. For example, estimate the population of the United States as 3 × 108 and the population of the world as 7 × 109, and determine that the	3		2		3	
8EE3015	8	Work with radicals and integer exponents.	Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. For example, estimate the population of the United States as 3 × 108 and the population of the world as 7 × 109, and determine that the	3		3		3	
8EE3024	8	Work with radicals and integer exponents.	Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. For example, estimate the population of the United States as 3 × 108 and the population of the world as 7 × 109, and determine that the	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8EE4010	8	Work with radicals and integer exponents.	Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading).	3		3		3	
8EE4019	8	Work with radicals and integer exponents.	Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading).	3		3		3	
8EE5007	8	Understand the connections between proportional relationships, lines, and linear equations.	Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. For example, compare a distance-time graph to a distance-time equation to determine which of two moving	1	Yes	1	Yes	1	Yes
8EE5015	8	Understand the connections between proportional relationships, lines, and linear equations.	Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. For example, compare a distance-time graph to a distance-time equation to determine which of two moving	3		2		3	
8EE6001	8	Understand the connections between proportional relationships, lines, and linear equations.	Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation y = mx for a line through the origin and the	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8EE6009	8	Understand the connections between proportional relationships, lines, and linear equations.	Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation y = mx for a line through the origin and the	3		2		3	
8EE6024	8	Understand the connections between proportional relationships, lines, and linear equations.	Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation y = mx for a line through the origin and the	3		3		3	
8EE7007	8	Analyze and solve linear equations and pairs of simultaneous linear equations.	Solve linear equations in one variable. a. Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form x = a, a = a, or a = b results (where a and b are different numbers). b. Solve linear equations with rational number	3		3		3	
8EE7016	8	Analyze and solve linear equations and pairs of simultaneous linear equations.	Solve linear equations in one variable. a. Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form x = a, a = a, or a = b results (where a and b are different numbers). b. Solve linear equations with rational number	3		3		2	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8EE8010	8	Analyze and solve linear equations and pairs of simultaneous linear equations.	Analyze and solve pairs of simultaneous linear equations. a. Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously. b. Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. For example, 3x + 2y = 5 and 3x + 2y = 6 have no solution because 3x + 2y cannot simultaneously be 5 and 6.	3		3		3	
8F1004	8	Define, evaluate, and compare functions.	Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output. Function notation is not required in	2		3		1	Yes
8F1012	8	Define, evaluate, and compare functions.	Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output. Function notation is not required in	3		3		3	
8F1019	8	Define, evaluate, and compare functions.	Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output. Function notation is not required in	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8F1034	8	Define, evaluate, and compare functions.	Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output. Function notation is not required in	3		3		3	
8F2006	8	Define, evaluate, and compare functions.	Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression,	3		3		3	
8F2017	8	Define, evaluate, and compare functions.	Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression,	3		3		3	
8F2030	8	Define, evaluate, and compare functions.	Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression,	3		2		3	
8F2035	8	Define, evaluate, and compare functions.	Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression,	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8F3010	8	Define, evaluate, and compare functions.	Interpret the equation y = mx + b as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. For example, the function A = s2 giving the area of a square as a function of its side length is not linear because its graph contains the points (1,1),	3		3		2	
8F3020	8	Define, evaluate, and compare functions.	Interpret the equation y = mx + b as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. For example, the function A = s2 giving the area of a square as a function of its side length is not linear because its graph contains the points (1,1),	3		2		3	
8F3029	8	Define, evaluate, and compare functions.	Interpret the equation y = mx + b as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. For example, the function A = s2 giving the area of a square as a function of its side length is not linear because its graph contains the points (1,1),	3		1	Yes	3	
8F4004	8	Use functions to model relationships between quantities.	Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation	3		1	Yes	3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8F4016	8	Use functions to model relationships between quantities.	Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation	3		3		2	
8F4023	8	Use functions to model relationships between quantities.	Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation	3		1	Yes	3	
8F4036	8	Use functions to model relationships between quantities.	Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation	1	Yes	2		0	Yes
8F5007	8	Use functions to model relationships between quantities.	Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8F5014	8	Use functions to model relationships between quantities.	Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been	1	Yes	1	Yes	3	
8F5027	8	Use functions to model relationships between quantities.	Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been	2		3		3	
8G1001	8	Understand congruence and similarity using physical models, transparencies, or geometry software.	Verify experimentally the properties of rotations, reflections, and translations: a. Lines are taken to lines, and line segments to line segments of the same length.	2		2		3	
8G1009	8	Understand congruence and similarity using physical models, transparencies, or geometry software.	Verify experimentally the properties of rotations, reflections, and translations: a. Lines are taken to lines, and line segments to line segments of the same length.	0	No	2		0	Yes
8G1024	8	Understand congruence and similarity using physical models, transparencies, or geometry software.	Verify experimentally the properties of rotations, reflections, and translations: a. Lines are taken to lines, and line segments to line segments of the same length.	3		3		3	
8G2006	8	Understand congruence and similarity using physical models, transparencies, or geometry software.	Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a	1	Yes	3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8G2020	8	Understand congruence and similarity using physical models, transparencies, or geometry software.	Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a	3		2		3	
8G3002	8	Understand congruence and similarity using physical models, transparencies, or geometry software.	Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.	3		1	No	3	
8G3016	8	Understand congruence and similarity using physical models, transparencies, or geometry software.	Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.	3		1	Yes	3	
8G4001	8	Understand congruence and similarity using physical models, transparencies, or geometry software.	Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the	3		2		2	
8G4012	8	Understand congruence and similarity using physical models, transparencies, or geometry software.	Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8G5003	8	Understand congruence and similarity using physical models, transparencies, or geometry software.	Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles. For example, arrange three copies of the same triangle so that the sum of the three angles appears to form a line, and give an argument	3		3		2	
8G5014	8	Understand congruence and similarity using physical models, transparencies, or geometry software.	Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles. For example, arrange three copies of the same triangle so that the sum of the three angles appears to form a line, and give an argument	3		3		3	
8G6006	8	Understand and apply the Pythagorean Theorem.	Explain a proof of the Pythagorean Theorem and its converse.	2		1	Yes	2	
8G6017	8	Understand and apply the Pythagorean Theorem.	Explain a proof of the Pythagorean Theorem and its converse.	2		1	Yes	1	Yes
8G7009	8	Understand and apply the Pythagorean Theorem.	Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and	3		3		3	
8G7016	8	Understand and apply the Pythagorean Theorem.	Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and	3		3		3	
8G8010	8	Understand and apply the Pythagorean Theorem.	Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.	3		1	Yes	3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8G9001	8	Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres.	Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.	3		2		3	
8G9012	8	Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres.	Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.	3		2		3	
8NS1003	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which	3		2		3	
8NS1011	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which	3		2		2	
8NS1025	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which	3		3		3	
8NS1035	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which	3		2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8NS1041	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which	3		1	Yes	3	
8NS1050	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which	3		1	No	3	
8NS1065	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which	3		3		3	
8NS1073	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which	3		1	Yes	3	
8NS1090	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which	3		2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8NS2004	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., ?2). For example, by truncating the decimal expansion of ?2, show that ?2 is between 1 and 2, then between 1.4 and 1.5, and explain how	3		3		3	
8NS2010	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., ?2). For example, by truncating the decimal expansion of ?2, show that ?2 is between 1 and 2, then between 1.4 and 1.5, and explain how	3		3		3	
8NS2026	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., ?2). For example, by truncating the decimal expansion of ?2, show that ?2 is between 1 and 2, then between 1.4 and 1.5, and explain how	3		3		3	
8NS2038	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., ?2). For example, by truncating the decimal expansion of ?2, show that ?2 is between 1 and 2, then between 1.4 and 1.5, and explain how	3		2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8NS2039	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., ?2). For example, by truncating the decimal expansion of ?2, show that ?2 is between 1 and 2, then between 1.4 and 1.5, and explain how	0	Yes	1	Yes	2	
8NS2053	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., ?2). For example, by truncating the decimal expansion of ?2, show that ?2 is between 1 and 2, then between 1.4 and 1.5, and explain how	3		3		3	
8NS2067	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., ?2). For example, by truncating the decimal expansion of ?2, show that ?2 is between 1 and 2, then between 1.4 and 1.5, and explain how	3		2		3	
8NS2071	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., ?2). For example, by truncating the decimal expansion of ?2, show that ?2 is between 1 and 2, then between 1.4 and 1.5, and explain how	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8NS2080	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., ?2). For example, by truncating the decimal expansion of ?2, show that ?2 is between 1 and 2, then between 1.4 and 1.5, and explain how	1	Yes	1	Yes	3	
8SP1005	8	Investigate patterns of association in bivariate data.	Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear	3		3		3	
8SP1013	8	Investigate patterns of association in bivariate data.	Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear	3		3		3	
8SP1020	8	Investigate patterns of association in bivariate data.	Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear	3		2		3	
8SP1035	8	Investigate patterns of association in bivariate data.	Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear	3		2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8SP1040	8	Investigate patterns of association in bivariate data.	Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear	3		2		3	
8SP2006	8	Investigate patterns of association in bivariate data.	Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the	3		1	No	3	
8SP2024	8	Investigate patterns of association in bivariate data.	Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the	3		1	No	2	
8SP2027	8	Investigate patterns of association in bivariate data.	Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the	3		3		3	
8SP2036	8	Investigate patterns of association in bivariate data.	Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8SP3006	8	Investigate patterns of association in bivariate data.	Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. For example, in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is	3		3		3	
8SP3011	8	Investigate patterns of association in bivariate data.	Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. For example, in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is	3		3		3	
8SP3021	8	Investigate patterns of association in bivariate data.	Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. For example, in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is	2		2		3	
8SP3035	8	Investigate patterns of association in bivariate data.	Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. For example, in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is	3		2		3	
8SP3043	8	Investigate patterns of association in bivariate data.	Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. For example, in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is	2		1	No	0	Yes

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8SP4006	8	Investigate patterns of association in bivariate data.	Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is	3		2		3	
8SP4022	8	Investigate patterns of association in bivariate data.	Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is	3		2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8SP4029	8	Investigate patterns of association in bivariate data.	Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is	3		2		3	
8SP4032	8	Investigate patterns of association in bivariate data.	Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is	3		3		3	
8EE1004	8	Work with radicals and integer exponents.	Know and apply the properties of integer exponents to generate equivalent numerical expressions. For example, 32 × 3?5 = 3?3 = 1/33 = 1/27.	2		3		3	
8EE1014	8	Work with radicals and integer exponents.	Know and apply the properties of integer exponents to generate equivalent numerical expressions. For example, 32 × 3?5 = 3?3 = 1/33 = 1/27.	2		3		2	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8EE1024	8	Work with radicals and integer exponents.	Know and apply the properties of integer exponents to generate equivalent numerical expressions. For example, 32 × 3?5 = 3?3 = 1/33 = 1/27.	3		3		3	
8EE2009	8	Work with radicals and integer exponents.	Use square root and cube root symbols to represent solutions to equations of the form x2 = p and x3 = p, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots	1	Yes	3		3	
8EE2020	8	Work with radicals and integer exponents.	Use square root and cube root symbols to represent solutions to equations of the form x2 = p and x3 = p, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots	1	Yes	3		3	
8EE3005	8	Work with radicals and integer exponents.	Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. For example, estimate the population of the United States as 3 × 108 and the population of the world as 7 × 109, and determine that the	3		3		3	
8EE3016	8	Work with radicals and integer exponents.	Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. For example, estimate the population of the United States as 3 × 108 and the population of the world as 7 × 109, and determine that the	1	Yes	1	Yes	3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8EE4001	8	Work with radicals and integer exponents.	Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading).	2		3		3	
8EE4011	8	Work with radicals and integer exponents.	Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading).	2		3		3	
8EE4023	8	Work with radicals and integer exponents.	Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading).	1	Yes	3		3	
8EE5008	8	Understand the connections between proportional relationships, lines, and linear equations.	Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. For example, compare a distance-time graph to a distance-time equation to determine which of two moving	2		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8EE5017	8	Understand the connections between proportional relationships, lines, and linear equations.	Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. For example, compare a distance-time graph to a distance-time equation to determine which of two moving	1	Yes	2		2	
8EE6003	8	Understand the connections between proportional relationships, lines, and linear equations.	Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation y = mx for a line through the origin and the	0	Yes	3		3	
8EE6015	8	Understand the connections between proportional relationships, lines, and linear equations.	Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation y = mx for a line through the origin and the	1	No	2		3	
8EE6023	8	Understand the connections between proportional relationships, lines, and linear equations.	Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation y = mx for a line through the origin and the	1	No	1	Yes	3	
8EE7009	8	Analyze and solve linear equations and pairs of simultaneous linear equations.	Solve linear equations in one variable. a. Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form x = a, a = a, or a = b results (where a and b are different numbers). b. Solve linear equations with rational number	2		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8EE8002	8	Analyze and solve linear equations and pairs of simultaneous linear equations.	Analyze and solve pairs of simultaneous linear equations. a. Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously. b. Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. For example, 3x + 2y = 5 and 3x + 2y = 6 have no solution because 3x + 2y cannot simultaneously be 5 and 6.	1	Yes	3		3	
8EE8012	8	Analyze and solve linear equations and pairs of simultaneous linear equations.	Analyze and solve pairs of simultaneous linear equations. a. Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously. b. Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. For example, 3x + 2y = 5 and 3x + 2y = 6 have no solution because 3x + 2y cannot simultaneously be 5 and 6.	1	Yes	0	Yes	3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8F1003	8	Define, evaluate, and compare functions.	Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output. Function notation is not required in	3		1	Yes	3	
8F1018	8	Define, evaluate, and compare functions.	Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output. Function notation is not required in	1	Yes	1	Yes	2	
8F1024	8	Define, evaluate, and compare functions.	Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output. Function notation is not required in	2		1	Yes	3	
8F1031	8	Define, evaluate, and compare functions.	Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output. Function notation is not required in	2		3		3	
8F2008	8	Define, evaluate, and compare functions.	Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression,	3		3		3	
8F2013	8	Define, evaluate, and compare functions.	Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression,	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8F2026	8	Define, evaluate, and compare functions.	Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression,	3		3		3	
8F3002	8	Define, evaluate, and compare functions.	Interpret the equation y = mx + b as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. For example, the function A = s2 giving the area of a square as a function of its side length is not linear because its graph contains the points (1,1),	1	Yes	1	Yes	3	
8F3012	8	Define, evaluate, and compare functions.	Interpret the equation y = mx + b as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. For example, the function A = s2 giving the area of a square as a function of its side length is not linear because its graph contains the points (1,1),	2		2		0	Yes
8F3019	8	Define, evaluate, and compare functions.	Interpret the equation y = mx + b as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. For example, the function A = s2 giving the area of a square as a function of its side length is not linear because its graph contains the points (1,1),	2		2		3	
8F3032	8	Define, evaluate, and compare functions.	Interpret the equation y = mx + b as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. For example, the function A = s2 giving the area of a square as a function of its side length is not linear because its graph contains the points (1,1),	3		1	Yes	2	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8F4001	8	Use functions to model relationships between quantities.	Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation	2		2		3	
8F4013	8	Use functions to model relationships between quantities.	Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation	2		3		3	
8F4025	8	Use functions to model relationships between quantities.	Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation	2		3		3	
8F4034	8	Use functions to model relationships between quantities.	Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation	1	Yes	1	Yes	3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8F5012	8	Use functions to model relationships between quantities.	Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been	2		3		3	
8F5023	8	Use functions to model relationships between quantities.	Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been	2		3		3	
8F5030	8	Use functions to model relationships between quantities.	Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been	3		3		3	
8G1004	8	Understand congruence and similarity using physical models, transparencies, or geometry software.	Verify experimentally the properties of rotations, reflections, and translations: a. Lines are taken to lines, and line segments to line segments of the same length.	2		3		3	
8G1016	8	Understand congruence and similarity using physical models, transparencies, or geometry software.	Verify experimentally the properties of rotations, reflections, and translations: a. Lines are taken to lines, and line segments to line segments of the same length.	2		2		3	
8G1021	8	Understand congruence and similarity using physical models, transparencies, or geometry software.	Verify experimentally the properties of rotations, reflections, and translations: a. Lines are taken to lines, and line segments to line segments of the same length.	2		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8G2009	8	Understand congruence and similarity using physical models, transparencies, or geometry software.	Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a	2		1	Yes	3	
8G2019	8	Understand congruence and similarity using physical models, transparencies, or geometry software.	Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a	1	Yes	2		3	
8G3007	8	Understand congruence and similarity using physical models, transparencies, or geometry software.	Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.	3		3		3	
8G3013	8	Understand congruence and similarity using physical models, transparencies, or geometry software.	Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.	3		3		3	
8G4005	8	Understand congruence and similarity using physical models, transparencies, or geometry software.	Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the	3		1	Yes	3	
8G4014	8	Understand congruence and similarity using physical models, transparencies, or geometry software.	Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the	3		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8G5004	8	Understand congruence and similarity using physical models, transparencies, or geometry software.	Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles. For example, arrange three copies of the same triangle so that the sum of the three angles appears to form a line, and give an argument	2		1	Yes	3	
8G5013	8	Understand congruence and similarity using physical models, transparencies, or geometry software.	Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles. For example, arrange three copies of the same triangle so that the sum of the three angles appears to form a line, and give an argument	2		2		3	
8G6009	8	Understand and apply the Pythagorean Theorem.	Explain a proof of the Pythagorean Theorem and its converse.	1	Yes	3		3	
8G6018	8	Understand and apply the Pythagorean Theorem.	Explain a proof of the Pythagorean Theorem and its converse.	1	Yes	2		3	
8G7008	8	Understand and apply the Pythagorean Theorem.	Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and	3		3		3	
8G8002	8	Understand and apply the Pythagorean Theorem.	Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.	3		3		3	
8G8011	8	Understand and apply the Pythagorean Theorem.	Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.	3		2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8G9003	8	Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres.	Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.	1	Yes	2		2	
8G9015	8	Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres.	Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.	3		3		3	
8NS1004	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which	1	Yes	3		3	
8NS1012	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which	1	Yes	3		3	
8NS1022	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which	0	No	2		3	
8NS1034	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which	1	Yes	2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8NS1039	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which	1	No	2		3	
8NS1055	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which	2		3		3	
8NS1062	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which	1	Yes	1	Yes	3	
8NS1066	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which	2		1	Yes	3	
8NS1081	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which	2		1	Yes	3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8NS2002	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., ?2). For example, by truncating the decimal expansion of ?2, show that ?2 is between 1 and 2, then between 1.4 and 1.5, and explain how	3		3		3	
8NS2008	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., ?2). For example, by truncating the decimal expansion of ?2, show that ?2 is between 1 and 2, then between 1.4 and 1.5, and explain how	2		2		3	
8NS2027	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., ?2). For example, by truncating the decimal expansion of ?2, show that ?2 is between 1 and 2, then between 1.4 and 1.5, and explain how	3		2		3	
8NS2033	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., ?2). For example, by truncating the decimal expansion of ?2, show that ?2 is between 1 and 2, then between 1.4 and 1.5, and explain how	0	Yes	1	Yes	3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8NS2042	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., ?2). For example, by truncating the decimal expansion of ?2, show that ?2 is between 1 and 2, then between 1.4 and 1.5, and explain how	0	Yes	0	Yes	3	
8NS2058	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., ?2). For example, by truncating the decimal expansion of ?2, show that ?2 is between 1 and 2, then between 1.4 and 1.5, and explain how	2		3		3	
8NS2062	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., ?2). For example, by truncating the decimal expansion of ?2, show that ?2 is between 1 and 2, then between 1.4 and 1.5, and explain how	3		3		3	
8NS2070	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., ?2). For example, by truncating the decimal expansion of ?2, show that ?2 is between 1 and 2, then between 1.4 and 1.5, and explain how	1	Yes	3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8NS2082	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., ?2). For example, by truncating the decimal expansion of ?2, show that ?2 is between 1 and 2, then between 1.4 and 1.5, and explain how	1	Yes	3		2	
8SP1003	8	Investigate patterns of association in bivariate data.	Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear	1	Yes	2		3	
8SP1016	8	Investigate patterns of association in bivariate data.	Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear	1	Yes	3		3	
8SP1022	8	Investigate patterns of association in bivariate data.	Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear	2		1	Yes	1	Yes
8SP1032	8	Investigate patterns of association in bivariate data.	Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear	1	No	2		2	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8SP1042	8	Investigate patterns of association in bivariate data.	Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear	2		2		3	
8SP2010	8	Investigate patterns of association in bivariate data.	Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the	3		3		3	
8SP2023	8	Investigate patterns of association in bivariate data.	Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the	2		1	Yes	1	Yes
8SP2030	8	Investigate patterns of association in bivariate data.	Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the	3		1	Yes	3	
8SP2041	8	Investigate patterns of association in bivariate data.	Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the	3		2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8SP3004	8	Investigate patterns of association in bivariate data.	Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. For example, in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is	1	Yes	2		0	Yes
8SP3008	8	Investigate patterns of association in bivariate data.	Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. For example, in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is	3		2		2	
8SP3026	8	Investigate patterns of association in bivariate data.	Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. For example, in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is	3		3		3	
8SP3031	8	Investigate patterns of association in bivariate data.	Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. For example, in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is	3		1	Yes	3	
8SP3045	8	Investigate patterns of association in bivariate data.	Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. For example, in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is	1	Yes	2		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8SP4005	8	Investigate patterns of association in bivariate data.	Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is	2		2		3	
8SP4021	8	Investigate patterns of association in bivariate data.	Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is	2		3		3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8SP4028	8	Investigate patterns of association in bivariate data.	Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is	2		1	Yes	3	
8SP4040	8	Investigate patterns of association in bivariate data.	Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is	2		1	Yes	3	
8EE1005	8	Work with radicals and integer exponents.	Know and apply the properties of integer exponents to generate equivalent numerical expressions. For example, 32 × 3?5 = 3?3 = 1/33 = 1/27.	3		3	No	2	
8EE1013	8	Work with radicals and integer exponents.	Know and apply the properties of integer exponents to generate equivalent numerical expressions. For example, 32 × 3?5 = 3?3 = 1/33 = 1/27.	3		3	No	3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8EE2001	8	Work with radicals and integer exponents.	Use square root and cube root symbols to represent solutions to equations of the form x2 = p and x3 = p, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots	3		3	No	3	
8EE2012	8	Work with radicals and integer exponents.	Use square root and cube root symbols to represent solutions to equations of the form x2 = p and x3 = p, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots	2		3	No	2	
8EE2024	8	Work with radicals and integer exponents.	Use square root and cube root symbols to represent solutions to equations of the form x2 = p and x3 = p, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots	3		3	No	1	Yes
8EE3006	8	Work with radicals and integer exponents.	Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. For example, estimate the population of the United States as 3 × 108 and the population of the world as 7 × 109, and determine that the	1	Yes	3	No	3	
8EE3017	8	Work with radicals and integer exponents.	Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. For example, estimate the population of the United States as 3 × 108 and the population of the world as 7 × 109, and determine that the	1	Yes	3	No	2	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8EE4004	8	Work with radicals and integer exponents.	Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading).	1	Yes	3	No	3	
8EE4015	8	Work with radicals and integer exponents.	Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading).	2		3	No	3	
8EE4021	8	Work with radicals and integer exponents.	Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading).	2		3	No	3	
8EE5012	8	Understand the connections between proportional relationships, lines, and linear equations.	Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. For example, compare a distance-time graph to a distance-time equation to determine which of two moving	0	No	3	No	3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8EE5019	8	Understand the connections between proportional relationships, lines, and linear equations.	Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. For example, compare a distance-time graph to a distance-time equation to determine which of two moving	1	Yes	3	No	2	
8EE6008	8	Understand the connections between proportional relationships, lines, and linear equations.	Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation y = mx for a line through the origin and the	3		3	No	3	
8EE6016	8	Understand the connections between proportional relationships, lines, and linear equations.	Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation y = mx for a line through the origin and the	3		2	No	1	No
8EE7001	8	Analyze and solve linear equations and pairs of simultaneous linear equations.	Solve linear equations in one variable. a. Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form x = a, a = a, or a = b results (where a and b are different numbers). b. Solve linear equations with rational number	3		2	No	3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8EE7012	8	Analyze and solve linear equations and pairs of simultaneous linear equations.	Solve linear equations in one variable. a. Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form x = a, a = a, or a = b results (where a and b are different numbers). b. Solve linear equations with rational number	3		3	No	2	
8EE8004	8	Analyze and solve linear equations and pairs of simultaneous linear equations.	Analyze and solve pairs of simultaneous linear equations. a. Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously. b. Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. For example, 3x + 2y = 5 and 3x + 2y = 6 have no solution because 3x + 2y cannot simultaneously be 5 and 6.	3		3	No	1	Yes

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8EE8013	8	Analyze and solve linear equations and pairs of simultaneous linear equations.	Analyze and solve pairs of simultaneous linear equations. a. Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously. b. Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. For example, 3x + 2y = 5 and 3x + 2y = 6 have no solution because 3x + 2y cannot simultaneously be 5 and 6.	3		3	No	1	Yes
8F1002	8	Define, evaluate, and compare functions.	Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output. Function notation is not required in	1	Yes	1	Yes	1	Yes
8F1016	8	Define, evaluate, and compare functions.	Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output. Function notation is not required in	2		3	No	0	Yes
8F1029	8	Define, evaluate, and compare functions.	Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output. Function notation is not required in	3		3	No	3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8F1035	8	Define, evaluate, and compare functions.	Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output. Function notation is not required in	1	No	1	Yes	0	Yes
8F2010	8	Define, evaluate, and compare functions.	Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression,	3		3	No	3	
8F2020	8	Define, evaluate, and compare functions.	Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression,	3		3	No	2	
8F2029	8	Define, evaluate, and compare functions.	Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression,	3		3	No	3	
8F3006	8	Define, evaluate, and compare functions.	Interpret the equation y = mx + b as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. For example, the function A = s2 giving the area of a square as a function of its side length is not linear because its graph contains the points (1,1),	3		2	No	2	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8F3018	8	Define, evaluate, and compare functions.	Interpret the equation y = mx + b as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. For example, the function A = s2 giving the area of a square as a function of its side length is not linear because its graph contains the points (1,1),	2		2	No	1	Yes
8F3024	8	Define, evaluate, and compare functions.	Interpret the equation y = mx + b as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. For example, the function A = s2 giving the area of a square as a function of its side length is not linear because its graph contains the points (1,1),	1	No	3	No	1	Yes
8F3035	8	Define, evaluate, and compare functions.	Interpret the equation y = mx + b as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. For example, the function A = s2 giving the area of a square as a function of its side length is not linear because its graph contains the points (1,1),	3		3	No	2	
8F4010	8	Use functions to model relationships between quantities.	Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation	1	Yes	3	No	1	Yes

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8F4015	8	Use functions to model relationships between quantities.	Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation	1	Yes	3	No	1	Yes
8F4029	8	Use functions to model relationships between quantities.	Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation	3		3	No	2	
8F5001	8	Use functions to model relationships between quantities.	Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been	2		3	No	3	
8F5010	8	Use functions to model relationships between quantities.	Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been	2		3	No	2	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8F5024	8	Use functions to model relationships between quantities.	Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been	2		3	No	2	
8F5034	8	Use functions to model relationships between quantities.	Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been	2		3	No	1	Yes
8G1007	8	Understand congruence and similarity using physical models, transparencies, or geometry software.	Verify experimentally the properties of rotations, reflections, and translations: a. Lines are taken to lines, and line segments to line segments of the same length.	2		3	No	2	
8G1013	8	Understand congruence and similarity using physical models, transparencies, or geometry software.	Verify experimentally the properties of rotations, reflections, and translations: a. Lines are taken to lines, and line segments to line segments of the same length.	2		2	No	1	Yes
8G2003	8	Understand congruence and similarity using physical models, transparencies, or geometry software.	Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a	3		3	No	3	
8G2012	8	Understand congruence and similarity using physical models, transparencies, or geometry software.	Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a	1	Yes	2	No	1	Yes

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8G2021	8	Understand congruence and similarity using physical models, transparencies, or geometry software.	Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a	3		3	No	3	
8G3005	8	Understand congruence and similarity using physical models, transparencies, or geometry software.	Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.	1	Yes	3	No	3	
8G3017	8	Understand congruence and similarity using physical models, transparencies, or geometry software.	Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.	1	Yes	3	No	3	
8G4004	8	Understand congruence and similarity using physical models, transparencies, or geometry software.	Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the	3		3	No	2	
8G4018	8	Understand congruence and similarity using physical models, transparencies, or geometry software.	Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the	3		3	No	3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8G5007	8	Understand congruence and similarity using physical models, transparencies, or geometry software.	Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles. For example, arrange three copies of the same triangle so that the sum of the three angles appears to form a line, and give an argument	2		3	No	1	Yes
8G5017	8	Understand congruence and similarity using physical models, transparencies, or geometry software.	Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles. For example, arrange three copies of the same triangle so that the sum of the three angles appears to form a line, and give an argument	2		3	No	2	
8G6012	8	Understand and apply the Pythagorean Theorem.	Explain a proof of the Pythagorean Theorem and its converse.	3		3	No	3	
8G7002	8	Understand and apply the Pythagorean Theorem.	Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and	3		3	No	3	
8G7012	8	Understand and apply the Pythagorean Theorem.	Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and	3		3	No	3	
8G8006	8	Understand and apply the Pythagorean Theorem.	Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.	3		3	No	0	Yes
8G8013	8	Understand and apply the Pythagorean Theorem.	Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.	3		3	No	3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8G9004	8	Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres.	Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.	3		3	No	2	
8G9016	8	Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres.	Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.	3		3	No	2	
8NS1005	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which	2		3	No	1	No
8NS1020	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which	0	No	3	No	2	
8NS1026	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which	3		3	No	2	
8NS1040	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which	1	No	3	No	3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8NS1048	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which	1	No	2	No	1	Yes
8NS1051	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which	2		3	No	1	Yes
8NS1068	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which	2		2	No	1	Yes
8NS1083	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which	3		3	No	2	
8NS1085	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which	2		3	No	3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8NS2005	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., ?2). For example, by truncating the decimal expansion of ?2, show that ?2 is between 1 and 2, then between 1.4 and 1.5, and explain how	3		3	No	3	
8NS2015	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., ?2). For example, by truncating the decimal expansion of ?2, show that ?2 is between 1 and 2, then between 1.4 and 1.5, and explain how	3		3	No	3	
8NS2018	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., ?2). For example, by truncating the decimal expansion of ?2, show that ?2 is between 1 and 2, then between 1.4 and 1.5, and explain how	1	Yes	3	No	3	
8NS2041	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., ?2). For example, by truncating the decimal expansion of ?2, show that ?2 is between 1 and 2, then between 1.4 and 1.5, and explain how	0	No	1	Yes	1	Yes

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8NS2044	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., ?2). For example, by truncating the decimal expansion of ?2, show that ?2 is between 1 and 2, then between 1.4 and 1.5, and explain how	1	Yes	2	No	1	Yes
8NS2060	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., ?2). For example, by truncating the decimal expansion of ?2, show that ?2 is between 1 and 2, then between 1.4 and 1.5, and explain how	3		3	No	2	
8NS2065	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., ?2). For example, by truncating the decimal expansion of ?2, show that ?2 is between 1 and 2, then between 1.4 and 1.5, and explain how	2		2	No	1	Yes
8NS2073	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., ?2). For example, by truncating the decimal expansion of ?2, show that ?2 is between 1 and 2, then between 1.4 and 1.5, and explain how	3		3	No	3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8NS2084	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., ?2). For example, by truncating the decimal expansion of ?2, show that ?2 is between 1 and 2, then between 1.4 and 1.5, and explain how	2		3	No	2	
8SP1008	8	Investigate patterns of association in bivariate data.	Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear	1	Yes	3	No	2	
8SP1012	8	Investigate patterns of association in bivariate data.	Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear	1	Yes	3	No	1	Yes
8SP1026	8	Investigate patterns of association in bivariate data.	Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear	1	Yes	3	No	3	
8SP1036	8	Investigate patterns of association in bivariate data.	Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear	1	Yes	3	No	2	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8SP2004	8	Investigate patterns of association in bivariate data.	Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the	2		3	No	2	
8SP2014	8	Investigate patterns of association in bivariate data.	Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the	2		3	No	2	
8SP2021	8	Investigate patterns of association in bivariate data.	Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the	3		3	No	3	
8SP2026	8	Investigate patterns of association in bivariate data.	Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the	2		3	No	2	
8SP2042	8	Investigate patterns of association in bivariate data.	Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the	2		3	No	3	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8SP3007	8	Investigate patterns of association in bivariate data.	Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. For example, in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is	2		3	No	3	
8SP3015	8	Investigate patterns of association in bivariate data.	Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. For example, in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is	2		2	No	2	
8SP3027	8	Investigate patterns of association in bivariate data.	Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. For example, in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is	3		3	No	2	
8SP3034	8	Investigate patterns of association in bivariate data.	Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. For example, in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is	2		1	Yes	1	Yes
8SP3041	8	Investigate patterns of association in bivariate data.	Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. For example, in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is	3		1	No	1	Yes

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8SP4014	8	Investigate patterns of association in bivariate data.	Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is	2		2	No	2	
8SP4019	8	Investigate patterns of association in bivariate data.	Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is	2		3	No	2	

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8SP4035	8	Investigate patterns of association in bivariate data.	Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is	2		2	No	1	Yes
8SP4041	8	Investigate patterns of association in bivariate data.	Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is	2		2	No	3	
8EE1007	8	Work with radicals and integer exponents.	Know and apply the properties of integer exponents to generate equivalent numerical expressions. For example, 32 × 3?5 = 3?3 = 1/33 = 1/27.	3		3	No	3	No
8EE1017	8	Work with radicals and integer exponents.	Know and apply the properties of integer exponents to generate equivalent numerical expressions. For example, 32 × 3?5 = 3?3 = 1/33 = 1/27.	3		3	No	3	No

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8EE2004	8	Work with radicals and integer exponents.	Use square root and cube root symbols to represent solutions to equations of the form x2 = p and x3 = p, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots	3		3	No	3	No
8EE2016	8	Work with radicals and integer exponents.	Use square root and cube root symbols to represent solutions to equations of the form x2 = p and x3 = p, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots	3		3	No	3	No
8EE2022	8	Work with radicals and integer exponents.	Use square root and cube root symbols to represent solutions to equations of the form x2 = p and x3 = p, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots	3		3	No	3	No
8EE3010	8	Work with radicals and integer exponents.	Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. For example, estimate the population of the United States as 3 × 108 and the population of the world as 7 × 109, and determine that the	3		3	No	3	No
8EE3018	8	Work with radicals and integer exponents.	Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. For example, estimate the population of the United States as 3 × 108 and the population of the world as 7 × 109, and determine that the	3		3	No	3	No

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8EE4007	8	Work with radicals and integer exponents.	Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading).	3		3	No	3	No
8EE4013	8	Work with radicals and integer exponents.	Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading).	3		3	No	3	No
8EE5002	8	Understand the connections between proportional relationships, lines, and linear equations.	Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. For example, compare a distance-time graph to a distance-time equation to determine which of two moving	2		1	Yes	1	Yes
8EE5011	8	Understand the connections between proportional relationships, lines, and linear equations.	Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. For example, compare a distance-time graph to a distance-time equation to determine which of two moving	3		3	No	3	No

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8EE5021	8	Understand the connections between proportional relationships, lines, and linear equations.	Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. For example, compare a distance-time graph to a distance-time equation to determine which of two moving	3		3	No	3	No
8EE6007	8	Understand the connections between proportional relationships, lines, and linear equations.	Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation y = mx for a line through the origin and the	3		3	No	3	No
8EE6020	8	Understand the connections between proportional relationships, lines, and linear equations.	Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation y = mx for a line through the origin and the	3		3	No	3	No
8EE7002	8	Analyze and solve linear equations and pairs of simultaneous linear equations.	Solve linear equations in one variable. a. Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form x = a, a = a, or a = b results (where a and b are different numbers). b. Solve linear equations with rational number	3		3	No	3	No

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8EE7013	8	Analyze and solve linear equations and pairs of simultaneous linear equations.	Solve linear equations in one variable. a. Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form x = a, a = a, or a = b results (where a and b are different numbers). b. Solve linear equations with rational number	3		3	No	3	No
8EE8006	8	Analyze and solve linear equations and pairs of simultaneous linear equations.	Analyze and solve pairs of simultaneous linear equations. a. Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously. b. Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. For example, 3x + 2y = 5 and 3x + 2y = 6 have no solution because 3x + 2y cannot simultaneously be 5 and 6.	3		3	No	3	No

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8EE8018	8	Analyze and solve linear equations and pairs of simultaneous linear equations.	Analyze and solve pairs of simultaneous linear equations. a. Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously. b. Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. For example, 3x + 2y = 5 and 3x + 2y = 6 have no solution because 3x + 2y cannot simultaneously be 5 and 6.	2		3	No	3	No
8F1011	8	Define, evaluate, and compare functions.	Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output. Function notation is not required in	3		3	No	3	No
8F1013	8	Define, evaluate, and compare functions.	Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output. Function notation is not required in	3		3	No	3	No
8F1025	8	Define, evaluate, and compare functions.	Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output. Function notation is not required in	2		3	No	3	No

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8F2002	8	Define, evaluate, and compare functions.	Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression,	3		3	No	3	No
8F2009	8	Define, evaluate, and compare functions.	Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression,	3		2	No	2	No
8F2022	8	Define, evaluate, and compare functions.	Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression,	3		3	No	3	No
8F2036	8	Define, evaluate, and compare functions.	Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression,	3		2	No	2	No
8F3004	8	Define, evaluate, and compare functions.	Interpret the equation y = mx + b as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. For example, the function A = s2 giving the area of a square as a function of its side length is not linear because its graph contains the points (1,1),	3		3	No	3	No

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8F3013	8	Define, evaluate, and compare functions.	Interpret the equation y = mx + b as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. For example, the function A = s2 giving the area of a square as a function of its side length is not linear because its graph contains the points (1,1),	3		3	No	3	No
8F3025	8	Define, evaluate, and compare functions.	Interpret the equation y = mx + b as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. For example, the function A = s2 giving the area of a square as a function of its side length is not linear because its graph contains the points (1,1),	3		3	No	3	No
8F3033	8	Define, evaluate, and compare functions.	Interpret the equation y = mx + b as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. For example, the function A = s2 giving the area of a square as a function of its side length is not linear because its graph contains the points (1,1),	3		3	No	3	No
8F4012	8	Use functions to model relationships between quantities.	Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation	3		3	No	3	No

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8F4024	8	Use functions to model relationships between quantities.	Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation	3		3	No	3	No
8F4027	8	Use functions to model relationships between quantities.	Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation	2		3	No	3	No
8F5003	8	Use functions to model relationships between quantities.	Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been	3		3	No	3	No
8F5018	8	Use functions to model relationships between quantities.	Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been	2		3	No	3	No

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8F5019	8	Use functions to model relationships between quantities.	Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been	3		3	No	3	No
8F5036	8	Use functions to model relationships between quantities.	Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been	3		3	No	3	No
8G1001	8			3		3	No	3	No
8G1020	8	Understand congruence and similarity using physical models, transparencies, or geometry software.	Verify experimentally the properties of rotations, reflections, and translations: a. Lines are taken to lines, and line segments to line segments of the same length.	3		3	No	3	No
8G2001	8	Understand congruence and similarity using physical models, transparencies, or geometry software.	Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a	2		3	No	3	No
8G2015	8	Understand congruence and similarity using physical models, transparencies, or geometry software.	Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a	2		3	No	3	No
8G2022	8	Understand congruence and similarity using physical models, transparencies, or geometry software.	Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a	3		3	No	3	No

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8G3011	8	Understand congruence and similarity using physical models, transparencies, or geometry software.	Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.	3		3	No	3	No
8G3018	8	Understand congruence and similarity using physical models, transparencies, or geometry software.	Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.	3		3	No	3	No
8G4007	8	Understand congruence and similarity using physical models, transparencies, or geometry software.	Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the	3		3	No	3	No
8G4017	8	Understand congruence and similarity using physical models, transparencies, or geometry software.	Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the	3		3	No	3	No
8G5009	8	Understand congruence and similarity using physical models, transparencies, or geometry software.	Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles. For example, arrange three copies of the same triangle so that the sum of the three angles appears to form a line, and give an argument	3		3	No	3	No
8G6002	8	Understand and apply the Pythagorean Theorem.	Explain a proof of the Pythagorean Theorem and its converse.	1	Yes	2	No	2	No

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8G6011	8	Understand and apply the Pythagorean Theorem.	Explain a proof of the Pythagorean Theorem and its converse.	2		3	No	3	No
8G7003	8	Understand and apply the Pythagorean Theorem.	Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and	3		2	No	2	No
8G7015	8	Understand and apply the Pythagorean Theorem.	Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and	3		3	No	3	No
8G8004	8	Understand and apply the Pythagorean Theorem.	Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.	3		3	No	3	No
8G8018	8	Understand and apply the Pythagorean Theorem.	Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.	3		3	No	3	No
8G9007	8	Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres.	Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.	3		3	No	3	No
8G9017	8	Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres.	Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.	3		3	No	3	No
8NS1006	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which	2		2	No	2	No

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8NS1021	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which	3		3	No	3	No
8NS1023	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which	3		2	No	2	No
8NS1037	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which	3		3	No	3	No
8NS1054	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which	3		2	No	2	No
8NS1060	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which	1	Yes	1	Yes	1	Yes

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8NS1070	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which	3		2	No	2	No
8NS1080	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which	3		3	No	3	No
8NS1089	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which	3		3	No	3	No
8NS2012	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., ?2). For example, by truncating the decimal expansion of ?2, show that ?2 is between 1 and 2, then between 1.4 and 1.5, and explain how	3		3	No	3	No
8NS2020	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., ?2). For example, by truncating the decimal expansion of ?2, show that ?2 is between 1 and 2, then between 1.4 and 1.5, and explain how	3		3	No	3	No

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8NS2024	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., ?2). For example, by truncating the decimal expansion of ?2, show that ?2 is between 1 and 2, then between 1.4 and 1.5, and explain how	3		3	No	3	No
8NS2040	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., ?2). For example, by truncating the decimal expansion of ?2, show that ?2 is between 1 and 2, then between 1.4 and 1.5, and explain how	3		3	No	3	No
8NS2056	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., ?2). For example, by truncating the decimal expansion of ?2, show that ?2 is between 1 and 2, then between 1.4 and 1.5, and explain how	3		3	No	3	No
8NS2059	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., ?2). For example, by truncating the decimal expansion of ?2, show that ?2 is between 1 and 2, then between 1.4 and 1.5, and explain how	3		3	No	3	No

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8NS2063	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., ?2). For example, by truncating the decimal expansion of ?2, show that ?2 is between 1 and 2, then between 1.4 and 1.5, and explain how	3		3	No	3	No
8NS2081	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., ?2). For example, by truncating the decimal expansion of ?2, show that ?2 is between 1 and 2, then between 1.4 and 1.5, and explain how	3		3	No	3	No
8NS2087	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., ?2). For example, by truncating the decimal expansion of ?2, show that ?2 is between 1 and 2, then between 1.4 and 1.5, and explain how	3		3	No	3	No
8SP1007	8	Investigate patterns of association in bivariate data.	Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear	3		2	No	2	No

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8SP1023	8	Investigate patterns of association in bivariate data.	Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear	3		2	No	2	No
8SP1028	8	Investigate patterns of association in bivariate data.	Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear	3		3	No	3	No
8SP1037	8	Investigate patterns of association in bivariate data.	Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear	3		3	No	3	No
8SP2007	8	Investigate patterns of association in bivariate data.	Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the	3		3	No	3	No
8SP2011	8	Investigate patterns of association in bivariate data.	Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the	2		3	No	3	No

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8SP2017	8	Investigate patterns of association in bivariate data.	Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the	2		3	No	3	No
8SP2032	8	Investigate patterns of association in bivariate data.	Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the	3		3	No	3	No
8SP2039	8	Investigate patterns of association in bivariate data.	Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the	3		3	No	3	No
8SP3013	8	Investigate patterns of association in bivariate data.	Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. For example, in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is	2		3	No	3	No
8SP3018	8	Investigate patterns of association in bivariate data.	Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. For example, in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is	3		3	No	3	No

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8SP3022	8	Investigate patterns of association in bivariate data.	Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. For example, in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is	3		3	No	3	No
8SP3032	8	Investigate patterns of association in bivariate data.	Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. For example, in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is	3		3	No	3	No
8SP4003	8	Investigate patterns of association in bivariate data.	Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is	3		3	No	3	No

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8SP4013	8	Investigate patterns of association in bivariate data.	Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is	2		3	No	3	No
8SP4022	8			3		3	No	3	No
8SP4036	8	Investigate patterns of association in bivariate data.	Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is	2		3	No	3	No

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8SP4039	8	Investigate patterns of association in bivariate data.	Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is	3		3	No	3	No
8EE1010	8	Work with radicals and integer exponents.	Know and apply the properties of integer exponents to generate equivalent numerical expressions. For example, 32 × 3?5 = 3?3 = 1/33 = 1/27.	3		3		3	No
8EE1020	8	Work with radicals and integer exponents.	Know and apply the properties of integer exponents to generate equivalent numerical expressions. For example, 32 × 3?5 = 3?3 = 1/33 = 1/27.	3		3		3	No
8EE2008	8	Work with radicals and integer exponents.	Use square root and cube root symbols to represent solutions to equations of the form x2 = p and x3 = p, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots	3		3		3	No
8EE2015	8	Work with radicals and integer exponents.	Use square root and cube root symbols to represent solutions to equations of the form x2 = p and x3 = p, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots	2		1	Yes	3	No

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8EE3004	8	Work with radicals and integer exponents.	Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. For example, estimate the population of the United States as 3 × 108 and the population of the world as 7 × 109, and determine that the	3		3		3	No
8EE3012	8	Work with radicals and integer exponents.	Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. For example, estimate the population of the United States as 3 × 108 and the population of the world as 7 × 109, and determine that the	3		1	Yes	3	No
8EE3023	8	Work with radicals and integer exponents.	Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. For example, estimate the population of the United States as 3 × 108 and the population of the world as 7 × 109, and determine that the	3		1	Yes	3	No
8EE4008	8	Work with radicals and integer exponents.	Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading).	3		3		3	No

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8EE4017	8	Work with radicals and integer exponents.	Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading).	3		3		3	No
8EE5001	8	Understand the connections between proportional relationships, lines, and linear equations.	Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. For example, compare a distance-time graph to a distance-time equation to determine which of two moving	2		2		2	No
8EE5014	8	Understand the connections between proportional relationships, lines, and linear equations.	Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. For example, compare a distance-time graph to a distance-time equation to determine which of two moving	2		2		3	No
8EE5024	8	Understand the connections between proportional relationships, lines, and linear equations.	Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. For example, compare a distance-time graph to a distance-time equation to determine which of two moving	1	Yes	0	Yes	2	No
8EE6010	8	Understand the connections between proportional relationships, lines, and linear equations.	Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation y = mx for a line through the origin and the	2		0	Yes	3	No

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8EE6017	8	Understand the connections between proportional relationships, lines, and linear equations.	Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation y = mx for a line through the origin and the	1	Yes	0	Yes	3	No
8EE7004	8	Analyze and solve linear equations and pairs of simultaneous linear equations.	Solve linear equations in one variable. a. Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form x = a, a = a, or a = b results (where a and b are different numbers). b. Solve linear equations with rational number	3		3		3	No
8EE7014	8	Analyze and solve linear equations and pairs of simultaneous linear equations.	Solve linear equations in one variable. a. Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form x = a, a = a, or a = b results (where a and b are different numbers). b. Solve linear equations with rational number	3		3		3	No

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8EE8008	8	Analyze and solve linear equations and pairs of simultaneous linear equations.	Analyze and solve pairs of simultaneous linear equations. a. Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously. b. Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. For example, 3x + 2y = 5 and 3x + 2y = 6 have no solution because 3x + 2y cannot simultaneously be 5 and 6.	2		1	Yes	3	No
8EE8017	8	Analyze and solve linear equations and pairs of simultaneous linear equations.	Analyze and solve pairs of simultaneous linear equations. a. Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously. b. Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. For example, 3x + 2y = 5 and 3x + 2y = 6 have no solution because 3x + 2y cannot simultaneously be 5 and 6.	2		3		3	No

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8F1008	8	Define, evaluate, and compare functions.	Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output. Function notation is not required in	3		3		3	No
8F1022	8	Define, evaluate, and compare functions.	Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output. Function notation is not required in	3		1	Yes	3	No
8F1030	8	Define, evaluate, and compare functions.	Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output. Function notation is not required in	3		3		3	No
8F2005	8	Define, evaluate, and compare functions.	Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression,	3		3		2	No
8F2018	8	Define, evaluate, and compare functions.	Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression,	3		3		3	No

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8F2019	8	Define, evaluate, and compare functions.	Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression,	3		3		3	No
8F2034	8	Define, evaluate, and compare functions.	Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression,	1	Yes	2		2	No
8F3008	8	Define, evaluate, and compare functions.	Interpret the equation y = mx + b as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. For example, the function A = s2 giving the area of a square as a function of its side length is not linear because its graph contains the points (1,1),	3		3		2	No
8F3016	8	Define, evaluate, and compare functions.	Interpret the equation y = mx + b as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. For example, the function A = s2 giving the area of a square as a function of its side length is not linear because its graph contains the points (1,1),	3		3		3	No
8F3030	8	Define, evaluate, and compare functions.	Interpret the equation y = mx + b as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. For example, the function A = s2 giving the area of a square as a function of its side length is not linear because its graph contains the points (1,1),	3		3		3	No

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8F4003	8	Use functions to model relationships between quantities.	Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation	3		2		3	No
8F4008	8	Use functions to model relationships between quantities.	Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation	3		3		2	No
8F4020	8	Use functions to model relationships between quantities.	Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation	3		3		3	No
8F4035	8	Use functions to model relationships between quantities.	Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation	3		1	Yes	1	Yes

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8F5002	8	Use functions to model relationships between quantities.	Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been	3		3		3	No
8F5015	8	Use functions to model relationships between quantities.	Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been	3		3		3	No
8F5029	8	Use functions to model relationships between quantities.	Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been	3		3		3	No
8F5033	8	Use functions to model relationships between quantities.	Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been	3		2		3	No
8G1012	8	Understand congruence and similarity using physical models, transparencies, or geometry software.	Verify experimentally the properties of rotations, reflections, and translations: a. Lines are taken to lines, and line segments to line segments of the same length.	3		3		2	No
8G1019	8	Understand congruence and similarity using physical models, transparencies, or geometry software.	Verify experimentally the properties of rotations, reflections, and translations: a. Lines are taken to lines, and line segments to line segments of the same length.	2		1	Yes	3	No

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8G2008	8	Understand congruence and similarity using physical models, transparencies, or geometry software.	Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a	3		1	Yes	3	No
8G2016	8	Understand congruence and similarity using physical models, transparencies, or geometry software.	Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a	3		1	Yes	3	No
8G3003	8	Understand congruence and similarity using physical models, transparencies, or geometry software.	Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.	2		3		3	No
8G3009	8	Understand congruence and similarity using physical models, transparencies, or geometry software.	Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.	1	Yes	3		3	No
8G3021	8	Understand congruence and similarity using physical models, transparencies, or geometry software.	Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.	3		3		3	No
8G4010	8	Understand congruence and similarity using physical models, transparencies, or geometry software.	Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the	2		1	Yes	3	No

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8G5002	8	Understand congruence and similarity using physical models, transparencies, or geometry software.	Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles. For example, arrange three copies of the same triangle so that the sum of the three angles appears to form a line, and give an argument	2		1	Yes	3	No
8G5010	8	Understand congruence and similarity using physical models, transparencies, or geometry software.	Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles. For example, arrange three copies of the same triangle so that the sum of the three angles appears to form a line, and give an argument	3		3		3	No
8G6004	8	Understand and apply the Pythagorean Theorem.	Explain a proof of the Pythagorean Theorem and its converse.	3		3		3	No
8G6015	8	Understand and apply the Pythagorean Theorem.	Explain a proof of the Pythagorean Theorem and its converse.	2		2		3	No
8G7006	8	Understand and apply the Pythagorean Theorem.	Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and	3		3		3	No
8G7013	8	Understand and apply the Pythagorean Theorem.	Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and	3		3		3	No
8G8009	8	Understand and apply the Pythagorean Theorem.	Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.	3		3		3	No
8G8017	8	Understand and apply the Pythagorean Theorem.	Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.	3		3		2	No

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8G9008	8	Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres.	Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.	3		3		3	No
8G9019	8	Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres.	Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.	3		3		3	No
8NS1009	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which	3		1	Yes	3	No
8NS1017	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which	3		3		3	No
8NS1019	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which	3		3		3	No
8NS1038	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which	3		1	Yes	3	No

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8NS1049	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which	2		1	Yes	2	No
8NS1057	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which	3		3		3	No
8NS1064	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which	3		3		3	No
8NS1076	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which	3		2		3	No
8NS1086	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which	2		1	Yes	3	No

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8NS2003	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., ?2). For example, by truncating the decimal expansion of ?2, show that ?2 is between 1 and 2, then between 1.4 and 1.5, and explain how	3		3		3	No
8NS2016	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., ?2). For example, by truncating the decimal expansion of ?2, show that ?2 is between 1 and 2, then between 1.4 and 1.5, and explain how	3		3		3	No
8NS2017	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., ?2). For example, by truncating the decimal expansion of ?2, show that ?2 is between 1 and 2, then between 1.4 and 1.5, and explain how	3		3		3	No
8NS2034	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., ?2). For example, by truncating the decimal expansion of ?2, show that ?2 is between 1 and 2, then between 1.4 and 1.5, and explain how	3		3		3	No

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8NS2048	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., ?2). For example, by truncating the decimal expansion of ?2, show that ?2 is between 1 and 2, then between 1.4 and 1.5, and explain how	3		2		3	No
8NS2051	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., ?2). For example, by truncating the decimal expansion of ?2, show that ?2 is between 1 and 2, then between 1.4 and 1.5, and explain how	3		3		3	No
8NS2075	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., ?2). For example, by truncating the decimal expansion of ?2, show that ?2 is between 1 and 2, then between 1.4 and 1.5, and explain how	3		3		3	No
8NS2089	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., ?2). For example, by truncating the decimal expansion of ?2, show that ?2 is between 1 and 2, then between 1.4 and 1.5, and explain how	3		3		3	No

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8NS2090	8	Know that there are numbers that are not rational, and approximate them by rational numbers.	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., ?2). For example, by truncating the decimal expansion of ?2, show that ?2 is between 1 and 2, then between 1.4 and 1.5, and explain how	3		3		3	No
8SP1010	8	Investigate patterns of association in bivariate data.	Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear	3		3		3	No
8SP1021	8	Investigate patterns of association in bivariate data.	Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear	3		3		3	No
8SP1029	8	Investigate patterns of association in bivariate data.	Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear	3		3		3	No
8SP1043	8	Investigate patterns of association in bivariate data.	Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear	3		3		3	No

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8SP2005	8	Investigate patterns of association in bivariate data.	Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the	3		1	Yes	2	No
8SP2015	8	Investigate patterns of association in bivariate data.	Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the	3		1	Yes	2	No
8SP2029	8	Investigate patterns of association in bivariate data.	Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the	2		1	Yes	3	No
8SP2037	8	Investigate patterns of association in bivariate data.	Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the	3		3		3	No
8SP2043	8	Investigate patterns of association in bivariate data.	Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the	3		3		3	No

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8SP3014	8	Investigate patterns of association in bivariate data.	Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. For example, in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is	2		3		3	No
8SP3016	8	Investigate patterns of association in bivariate data.	Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. For example, in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is	2		1	No	0	No
8SP3029	8	Investigate patterns of association in bivariate data.	Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. For example, in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is	3		3		2	No
8SP3039	8	Investigate patterns of association in bivariate data.	Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. For example, in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is	2		2		1	Yes

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8SP4007	8	Investigate patterns of association in bivariate data.	Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is	3		3		3	No
8SP4010	8	Investigate patterns of association in bivariate data.	Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is	3		3		3	No

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8SP4025	8	Investigate patterns of association in bivariate data.	Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is	3		3		3	No
8SP4037	8	Investigate patterns of association in bivariate data.	Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is	3		3		3	No

ItemID	Grade	Domain	Standard	r1Rtg	r1Req	r2Rtg	r2Req	r3Rtg	r3Req
8SP4042	8	Investigate patterns of association in bivariate data.	Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is	2		3		3	No