

# Arizona's Instrument to Measure Standards (AIMS DPA)

## Student Guide Grade 6



Arizona Department of Education  
Tom Horne, Superintendent of Public Instruction

Assessment Section  
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## Table of Contents

<b>Section</b>	<b>Page</b>
AIMS DPA FAQ	4
Reading	6
Writing	10
Mathematics	24
Scoring Keys	32
Six Trait Writing Rubric	33
AIMS DPA Mathematics Reference Sheet	39
Test-Taking Strategies	40
Notes	41

# AIMS DPA FAQ

## What is AIMS DPA?

Arizona's Instrument to Measure Standards Dual Purpose Assessment (AIMS DPA) is a combination of two separate tests. One test is AIMS, which measures how well you know the reading, writing, and mathematics content that all Arizona students in your grade level are expected to know and be able to do. AIMS DPA includes multiple-choice questions in reading and mathematics and one extended writing response. The other test included in the AIMS DPA is the *TerraNova*, which compares your performance in reading, language arts, and mathematics to the performance of other students in your grade level nationwide. The *TerraNova* test questions are all multiple-choice questions. They are embedded in the reading and mathematics sections of the AIMS DPA test.

## Who has to take AIMS DPA?

All students in Grades 3 through 8 are required to participate in AIMS DPA testing in the spring, usually in April.

## What will be tested on AIMS DPA?

Test items were written to measure specifically the Standards, Concepts, and Performance Objectives described in the Arizona Academic Standards. Standards were articulated by grade level for reading and mathematics and approved by the state Board of Education in March 2003. Reading and mathematics items are multiple-choice. There will be no multiple-choice questions on the writing test. The Writing Standard was articulated by grade level and approved by the state Board of Education in June 2004. There will be an extended writing prompt that students will use to actively engage in the writing process. Your writing will be scored using the Six Trait Rubric™.

## How can I use this guide to prepare for AIMS DPA?

This guide is divided into three subject areas assessed on AIMS DPA. It gives a short explanation of each testing format, hints for test taking, sample test questions, and a scoring guide for written responses. It will NOT teach you what you should know and be able to do to score well on the tests, but it will help you become familiar with the tests.

Read what the guide tells you about the test. Practice completing the test questions and writing a response to the prompt. Ask your teacher about anything you do not understand.

## How can I prepare for AIMS DPA?

- Attend school regularly.
- Thoroughly read and become familiar with the Arizona's Academic Standards documents so that you understand exactly what you are expected to know and be able to do.
- Ask questions.
- Take charge of your own learning! Monitor your progress. Self -assess what you know, what you can do well, and where you need to improve.
- Actively participate in class.
- Have a scheduled time and place to study and do homework.

## Types of Items

### Multiple-Choice

Multiple-choice items will require you to select the BEST response from four possible answer choices and to indicate your choice by bubbling in the corresponding letter on an answer sheet. Although some responses will require a recall of facts or the computation of a correct answer, many of the items will require higher-level thinking and processing. Each multiple-choice item is scored correct (1 point) or incorrect (0 points). Each correct item contributes one point in your overall score.

### Extended Writing Response

The extended response item will ask you to respond to a prompt, which might include writing a letter, an essay, or a narrative. These responses will require a well-developed and well-organized presentation of ideas that follow a particular format suitable to the purpose and audience. You will be expected to develop your written response by following the steps in the writing process: prewriting, drafting, revising, editing, and producing a final copy. You will be provided with a revision checklist to guide your work. Your finished copy, not your prewriting or rough draft, will be scored using a six-point rubric that scores each trait or characteristic of effective writing. The rubric for this type of item is provided at the end of this guide.

# Reading

Reading is fundamental to all learning and supports us as lifelong learners. It can open our minds to people, places, and ideas beyond our own experiences. It gives us the knowledge we need to make informed choices as responsible citizens in a democratic society. One need only to browse the Internet to realize how much information is available to us at our fingertips. Understanding what we read, using the wealth of information available to us, and thinking critically about what we read, are crucial skills to function successfully in today's world.

## About the Test

AIMS DPA Reading will present several passages to read, both fiction and nonfiction. You may also be given informational text to read – for example, labels or pages from manuals. The questions will measure your ability to understand, interpret, and analyze what you have read. There are approximately 84 multiple-choice reading items. Thirty-nine items are AIMS questions, 15 items are *TerraNova* and AIMS DPA questions, and 30 items represent ten *TerraNova* reading questions and 20 *TerraNova* language arts questions. The test should be completed in approximately 1-2 hours. One sample passage is provided in this guide followed by a set of questions. Reading this passage and answering the questions may help you prepare for the test. An answer key is included in this guide.

## Hints for Taking AIMS DPA Reading

- You will be asked to read different types of fiction and nonfiction, so adjust your reading to your purpose. Read each passage and the accompanying questions carefully.
- Think about each question before you respond.
- In the multiple-choice questions, choose the **best** response to the question.
- Manage your time so that you won't feel rushed answering questions that require more thought. This is not a timed test, but you do want to use your time well.

## A Letter to the School Board

Dear School Board Members:

Next week, you will vote on removing vending machines that dispense soft drinks, candy, and salty snacks. This will require students to eat only the foods provided in the cafeteria or that are brought from home. My teacher, Ms. Solomon, allowed my class to discuss our opinions on the issue and suggested that we present our viewpoints to you. Although many of my friends oppose removing the machines, I support removing them for the following reasons.

First, many of the kids at my school are getting fat and lazy eating food that isn't very nutritious. Whenever they are thirsty they buy a soft drink instead of drinking water. If they get hungry they grab a candy bar or bag of chips instead of carrots or bananas. As a result they are becoming obese and many have stopped participating in physical activities they enjoyed when they were fit.

Second, kids are spending too much money on these snacks. Some of my friends spend \$4 -\$8 a day at the vending machines. As a result sometimes they do not have the \$2 left to buy healthy foods at lunch. A student could spend up to \$160 a month for junk food when they could get good foods in the cafeteria for only \$40 a month.

Third, a lot of kids at my school have told me that they buy food from the vending machines because they do not like the food in the cafeteria. They would rather buy snacks that taste good to them than food that is good for them that isn't very tasty. If the school got rid of the vending machines and everyone ate in the cafeteria, schools would be pressured to provide the kinds of foods kids like.

Finally, having the vending machines on campus is like being sponsored by that company and I don't think that is right. Our school gets money from the soft drink company for only selling its products, but it shouldn't come at the expense of students' health.

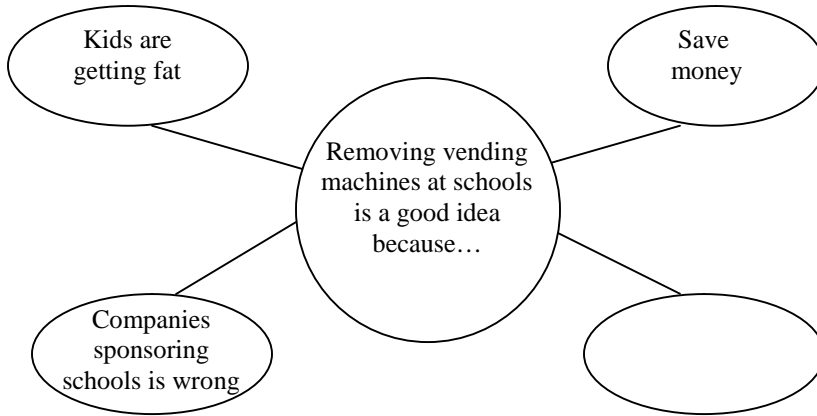
Thank you for asking students how they feel about allowing me to share my feelings about school vending machines. I hope you will consider my letter when you discuss removing the machines at your meeting next week.

Sincerely,

*Isaac Johnson*

Isaac Johnson

1 Look at the web from “A Letter to the School Board.”



Which information is missing from the web?

- A Some vending machine foods are healthy.
- B Schools shouldn't need vending machine funds.
- C Students would spend the same amount on food anyway.
- D School cafeterias would be forced to provide better tasting food.

2 Which statement supports Isaac's argument?

- A More students are healthier now than in the past.
- B Vending machine foods are cheaper than cafeteria food.
- C The fat content of snack food is higher than cafeteria food.
- D Kids eat more junk food at home than they do at school.

3 Which sentence from the letter is an opinion?

- A Third, a lot of kids at my school have told me that they buy food from the vending machines because they do not like the food in the cafeteria.
- B Our school gets money from the soft drink company for only selling its products, but it shouldn't come at the expense of students' health.
- C Next week, you will vote on removing vending machines that dispense soft drinks, candy, and salty snacks.
- D I hope you will consider my letter when you discuss removing the machines at your meeting next week.



4 What does Isaac hope to achieve by writing this letter?

- A to help people save lunch money
- B to require schools to change the cafeteria menu
- C to describe why he thinks fewer student participate in sports
- D to persuade the School Board to remove vending machines

5 In this letter, what does the word fit mean?

- A in shape
- B put in
- C proper
- D match

6 According to the letter, which statement is true?

- A All obese students eat snacks from vending machines.
- B Eating lunch in the school cafeteria will cost about \$160 a month.
- C If vending machines are removed from schools, cafeteria food will taste better.
- D Students in Ms. Solomon's class were given an assignment to write to the board.

7 Which of these statements about Isaac is PROBABLY true?

- A He eats healthy foods and participates in physical activities.
- B He spends most of his money at vending machines.
- C He doesn't want any changes in the cafeteria food.
- D He doesn't like to eat nutritious food.

# Writing

Writing is a critical skill for effective communication. Whether you are writing an e-mail message, a personal letter, an ad for your business, or a formal report for school or work, being able to express your ideas clearly to your audience is important. Becoming a good writer is not easy. It takes effort and the development of a variety of skills: clear ideas, organization, a voice that holds the interest of your audience, and a consistent control of language, including word choice, sentence structure, and conventions (spelling, grammar, punctuation and capitalization). With new technology, it is possible to electronically communicate in writing with people all over the world in a matter of minutes. Writing will continue to be a communication skill that is required in most professions and workplace environments. Acquiring effective written communication skills will enhance both your personal and professional opportunities.

## About the Test

You will be expected to write one extended writing piece on a specific topic. This writing test will be completed in one session, so all steps in the writing process including revising, editing, and writing a final copy will be done in that one session. The test should take approximately 2 -3 hours to complete. Examples of scored student responses to a sample writing prompt are included on pages 12-23. These may help you prepare for the test. A copy of the Official Scoring Guide is also included at the end of this guide.

## Hints for taking AIMS DPA Writing

### Prior to the test

- Read the four sample student responses to the prompt on the following pages. Note strengths and weaknesses in the paper as you read. Does the writer accomplish the task? Is the writer's message clear? Are the ideas supported with convincing evidence and support? Are the ideas organized so that you can logically follow them? Is the voice appropriate? Did the writer carefully choose words that are clear and convincing? Do the sentences have a natural flow? Is the paper carefully edited?
- Discuss with other students and your teacher why one paper is stronger or more convincing than another. Refer to the Official Scoring Guide when you analyze the sample papers and scores.
- Practice writing a persuasive response to this sample prompt. Score your own paper using the Official Scoring Guide to determine what your strengths are, and then work on areas you need to improve to be a more effective writer.

### During the test

- Listen to directions and read the prompt carefully and be sure you understand the purpose before beginning to write.
- Take time to organize your thoughts before you begin to write. For the extended writing prompt, you may want to create a graphic organizer (outline, web, chart, map, cluster, etc.) to plan and organize your ideas.
- Take advantage of the opportunity to revise your work using the checklist provided. Keep in mind the six traits (characteristics) of effective writing.
- Edit your writing carefully. Your audience (the reader) needs to be able to understand the ideas you are expressing without being hindered by spelling, punctuation, capitalization, and grammar mistakes that interfere with the message. **You must be sure your handwriting is legible. Printing your work is acceptable; however, be sure to distinguish between upper - and lower-case letters. Do NOT print in all capital letters.**

### **Keep in mind...**

- You will be given two pages in the test booklet to write your final copy. It is important that you take advantage of the two pages you are given to develop your ideas fully. This is your opportunity to demonstrate how well you can write.
- Your final copy needs to be handwritten (not done on a computer).
- You may use a dictionary or thesaurus as a reference during the extended writing response portion of the test.
- Be conscious of the traits, or characteristics, of effective writing (idea development, organization, voice, word choice, sentence fluency, and conventions) no matter what kind of writing you are asked to do. The same scoring guide, or rubric, will be used for all the types of writing you may be asked to compose: narrative, persuasive, expository, or formal communication.

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The following four examples illustrate the scoring performed for the AIMS DPA Writing.

The first example is scored as “**Falls Far Below.**”

The second example is scored as “**Approaches.**”

The third example is scored as “**Meets.**”

The fourth example is scored as “**Exceeds.**”

**Sample writing prompt:**

The cafeteria serves some foods people like and some they don't like. Think about three different foods that you would like the cafeteria manager to serve that you can't get now in the cafeteria.

Write a letter to the cafeteria manager convincing her to serve each of the three new foods that you are suggesting.

This is the Writer's Checklist you will see on the Grade 6 AIMS DPA Writing test. Practice using it when writing to revise your rough draft before writing your final copy. If you take the time to use it carefully, it will help you write a better paper.

**Writer's Checklist**

- My paper has a specific audience and a specific purpose.
- My paper contains a strong, controlling idea.
- My paper stays on topic.
- My paper includes specific and relevant details, reasons, and examples.
- My paper has an effective beginning, middle, and end.
- My paper progresses in a logical order, and my ideas flow smoothly.
- My paper contains words that make it interesting.
- My paper contains sentences that are clear and varied in structure.
- My paper includes effective use of paragraphing.
- My paper includes correct grammar/usage, punctuation, capitalization, and spelling.

Sample 1

Writing

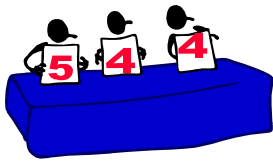
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Dear: Lunch manager

I would like to have fries with every meal. I would also like to have Hot n' Spicy wings Monday and Tuesday. On Thursday and Friday I would like there to be Hot and soft pretzels, Thank-you for your consem.

To: Lunch Manager

From: D S



## Score Sheet for Writing Sample 1

### Prompt:

The cafeteria serves some foods people like and some they don't like. Think about three different foods that you would like the cafeteria manager to serve that you can't get now in the cafeteria.

Write a letter to the cafeteria manager convincing her to serve each of the three new foods that you are suggesting.

### Paper Falls Far Below the standard

#### *Ideas & Content*

6 5 4 3 (2) 1

#### *Organization*

6 5 4 3 2 (1)

#### *Voice*

6 5 4 3 2 (1)

#### *Word Choice*

6 5 4 3 (2) 1

#### *Sentence Fluency*

6 5 4 (3) 2 1

#### *Conventions*

6 5 4 3 (2) 1

The underlined passages are taken from the *Official Scoring Guide for AIMS Writing* (Six Trait Rubric). Papers are original samples of Arizona student writing. Identifying information has been removed.

**Ideas and Content:** Development is attempted but minimal. The writer includes suggestions but fails to offer details. The purpose and main idea require extensive inferences by the reader. **Score point is 2.**

**Organization:** Organization is haphazard and disjointed. There is failure to provide an identifiable beginning, body, or ending. **Score point is 1.**

**Voice:** Writing seems to lack a sense of involvement. There is no sense of interaction between writer and reader. The writing is flat and lifeless. **Score point is 1.**

**Word Choice:** Language is monotonous and imprecise. The writer uses "I would..." 3 times in as many sentences. Images are fuzzy or absent altogether. **Score point is 2.**

**Sentence Fluency:** Writing tends to be mechanical. Sentences lack energy. There is control over simple sentences. **Score point is 3.**

**Conventions:** Writing demonstrates little control of conventions. There is a substantial need for editing. **Score point is 2.**

S	Middle School
On 4 <sup>th</sup> St.	
P	St.
46071	
	From: 1961 Gorge
	Town On
	10 <sup>th</sup> St. 96406
To: Cafeteria Manager	
<p>My friend from M.S had sent me a letter saying, "I really don't like the Cafeteria food". Then I have another friend from M.S that had send me a letter, saying, "I really like the Cafeteria food here" you should try it". I don't know what to do because, one of my friends likes the Cafeteria food, and the other one doesn't. What should I do?</p> <p>I had thought long and hard and I suggested I will make up Three new food to go in the Cafeteria if that is alright with you? But you should still keep your other foods too. Well if you say yes then you could probably have,</p>	

Sample 2B

Writing

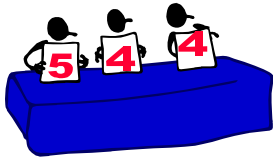
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Lasagna with Garlic bread, Oven  
Baked chicken with Mash Potatos, and  
Chicken noodle soup with French roll.  
Maybe these foods will be good for  
your school and kids because, theses  
food are very popular in the world, every  
one likes them.

From,  
J S







## Score Sheet for Writing Sample 2

### Prompt:

The cafeteria serves some foods people like and some they don't like. Think about three different foods that you would like the cafeteria manager to serve that you can't get now in the cafeteria.

Write a letter to the cafeteria manager convincing her to serve each of the three new foods that you are suggesting.

### Paper Approaches the standard

*Ideas & Content*  
6 5 4 (3) 2 1

*Organization*  
6 5 4 (3) 2 1

*Voice*  
6 5 4 (3) 2 1

*Word Choice*  
6 5 4 (3) 2 1

*Sentence Fluency*  
6 5 4 (3) 2 1

*Conventions*  
6 5 4 (3) 2 1

The underlined passages are taken from the *Official Scoring Guide for AIMS Writing* (Six Trait Rubric). Papers are original samples of Arizona student writing. Identifying information has been removed.

**Ideas and Content:** Supporting detail is often limited, insubstantial, or overly general. While the ideas of “lasagna with Garlic bread” and “Oven Baked chicken and Mash Potatos” are included, there are no details to support their inclusion in school lunch other than the very general description of “good” and “popular” in the final paragraph. The writer has difficulties when moving from general observations to specifics. **Score point is 3.**

**Organization:** An attempt has been made to organize the writing. Placement of details is not always effective. The structure is too skeletal. The first paragraph appears to be an introduction, but it does not transition well into the next paragraph. Paragraph two is inconsistent with details out of place. **Score point is 3.**

**Voice:** The writer's commitment to the topic seems inconsistent. A sense of the writer may emerge at times; however, the voice is inappropriately personal. The writer's awareness of the audience is unclear. “What should I do?” and “...if that is alright with you?” are inappropriate. **Score point is 3.**

**Word Choice:** The writer does not employ a variety of words, producing a sort of “generic” paper filled with familiar words and phrases. “Cafeteria” and “everyone” are the only words used that have more than three syllables. “Suggested” is the only verb choice that has any color to it. **Score point is 3.**

**Sentence Fluency:** Occasional awkward constructions force the reader to slow down. Sentences lack energy. Dialogue sounds stilted. “I had thought long and hard and I suggested I will make up three new food to go in the cafeteria if that is alright with you?” exemplifies the lack of fluidity. **Score point is 3.**

**Conventions:** The writer demonstrates limited control of standard writing conventions. Errors begin to impede readability. Errors in grammar and usage distract the reader. “...that had send me...” “...theses food are very popular in the world, everyone likes them.” **Score point is 3.**

Writing

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5	W.
G	, AZ 8 30
April 22, 2004	
Elementary School Cafeteria	
11W	Rd.
G	, AZ 8 38
To Whom it May Concern:	
I think that our cafeteria should serve more healthy foods. Since we are growing kids, it is most important at our age to eat more healthy foods. I wish more carbohydrates, vegetables, and protein would be served at my school's cafeteria.	
Carbohydrates, like bread and pasta should be served more often. It is healthy for students to eat a lot of carbohydrates, according to the food pyramid. Spaghetti, bread with chili, and soup with crackers are some example dishes with carbohydrates in them.	
Another type of food to serve at the cafeteria is vegetables. Normally there are no vegetables except salad everyday. I don't	

**Writing**

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know about all the other kids, but everyday my mom asks me what I ate for lunch, and makes me eat extra vegetables since I didn't eat any at lunch. Broccoli, cauliflower, and green beans are some suggestions of vegetables to serve at cafeteria.

My last food that I would like to see served more often is protein. More meat needs to be served. Most of the time, if there is chicken, it is fried, or is a chicken nugget. Terriyaki chicken, pork, and ground beef are some protein dishes.

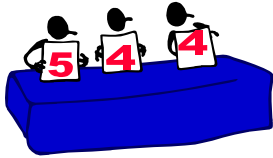
In conclusion, I would like to see more carbohydrates, vegetables, and protein in my school's cafeteria. Please consider my opinions. Thank you for your understanding and time.

Sincerely,

C  
C

Elementary School student





## Score Sheet for Writing Sample 3

### Prompt:

The cafeteria serves some foods people like and some they don't like. Think about three different foods that you would like the cafeteria manager to serve that you can't get now in the cafeteria.

Write a letter to the cafeteria manager convincing her to serve each of the three new foods that you are suggesting.

### Paper Meets the standard

<i>Ideas &amp; Content</i> 6 5 <u>4</u> 3 2 1	<i>Organization</i> 6 5 <u>4</u> 3 2 1	<i>Voice</i> 6 5 <u>4</u> 3 2 1
<i>Word Choice</i> 6 5 <u>4</u> 3 2 1	<i>Sentence Fluency</i> 6 5 <u>4</u> 3 2 1	<i>Conventions</i> 6 <u>5</u> 4 3 2 1

The underlined passages are taken from the *Official Scoring Guide for AIMS Writing* (Six Trait Rubric). Papers are original samples of Arizona student writing. Identifying information has been removed.

**Ideas and Content:** The writing is clear and focused. Support is present, although it may be limited or rather general. Writer begins with “more healthy foods” and offers supporting details such as “It is healthy for students to eat a lot of carbohydrates, according to the food pyramid.” Examples and details are, however, overly general, except for paragraph three where the writer offers personal experience as a supporting detail. **Score point is 4.**

**Organization:** Organization is clear and coherent. The predictable organization has a recognizable beginning, although it is not particularly inviting. “In conclusion” lacks subtlety. The body is easy to follow. **Score point is 4.**

**Voice:** The writer demonstrates commitment to the topic; there is a sense of “writing to be read,” especially in the third paragraph. The writer’s voice is sincere. **Score point is 4.**

**Word Choice:** Words effectively convey the intended message; however, they do not particularly energize the writing. The writer’s expression is functional. **Score point is 4.**

**Sentence Fluency:** The writing flows and has a natural sound, although it lacks a certain rhythm and grace. The last sentence in paragraph two is awkward in syntax. Also, the beginning sentence of paragraph four slows the reader down with similar awkwardness. Generally, the writer shows control over construction of effective sentences. **Score point is 4.**

**Conventions:** The writing demonstrates strong control of standard writing conventions. End punctuation, internal punctuation, and spelling are nearly always done correctly. **Score point is 5.**

Writing

FINAL COPY

April 22, 2004  
 39 N. 8th Ln.  
 El, AZ 85

Elementary School Cafeteria  
 387 N. 9th Ave.  
 El, AZ 85

Dear Sir or Madam:

Hello, my name is S El and I am one of the students of Elementary School. I come in everyday at a certain time to have a break from working and eat lunch. Although you have many choices for lunch, some dislike your food. My suggestion is that you should try to serve some other foods for our second meal. One food I suggest is an In-N-Out burger meal completed with french fries. We all know that eight out of ten people probably like In-N-Out. So, by serving some food that a lot of people love, they'll probably enjoy their meal more. I have to admit, In-N-Out is one restaurant I especially love.

Another example is vanilla, chocolate, and strawberry ice cream with chocolate syrup. The majority

## Sample 4B

### Writing

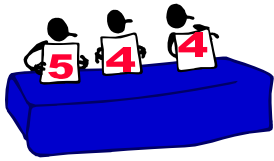
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of the people in this school most likely prefer ice cream as one of their favorite desserts. Strawberry, vanilla, and chocolate are the main three ice creams that are more well-known and popular. Also, by keeping sweet, delicious chocolate syrup on the side, people can choose to use the topping if they'd like. So as you can see, serving ice cream for a dessert would be a fabulous decision and a great chance for people to appreciate a delicious treat.

Last but not least, I believe the cafeteria should start to serve a German food called spatzle. Believe me, this food is astonishing! Well, it would help if I informed you what it is. Spatzle is thick, little noodles. It is especially unbelievable when you put extra gravy that's very warm on top of it! I also believe the cafeteria should serve spatzle because it's good for people to try other foods from very different cultures and this is the one to try! I think a lot of people would love and enjoy it, too.

I hope you can see why the school cafeteria should serve these foods. Thank you for your time and respect.

S G



## Score Sheet for Writing Sample 4

### Prompt:

The cafeteria serves some foods people like and some they don't like. Think about three different foods that you would like the cafeteria manager to serve that you can't get now in the cafeteria.

Write a letter to the cafeteria manager convincing her to serve each of the three new foods that you are suggesting.

### Paper Exceeds the standard

*Ideas & Content*  
6 5 4 3 2 1

*Organization*  
6 5 4 3 2 1

*Voice*  
6 5 4 3 2 1

*Word Choice*  
6 5 4 3 2 1

*Sentence Fluency*  
6 5 4 3 2 1

*Conventions*  
6 5 4 3 2 1

The underlined passages are taken from the *Official Scoring Guide for AIMS Writing* (Six Trait Rubric). Papers are original samples of Arizona student writing. Identifying information has been removed.

**Ideas and Content:** The writing is clear, focused, and interesting. The writer offers a thorough, balanced explanation. Writing holds the reader's interest. Suggestions of new foods are accompanied by thorough description and support. **Score point is 5.**

**Organization:** The order and structure is strong and move the reader through the text. There are smooth transitions among all elements. Words such as "although", "so", "another", "also", and "last" guide the reader. While the beginning and ending are not as strong as they could be, the rest of the writing overcomes these weaknesses. **Score point is 5.**

**Voice:** The writer has chosen a voice appropriate for the topic, purpose, and audience. The writing is expressive, engaging, and sincere. The writing shows originality and honesty. "In-N-Out is one restaurant I especially love." "Believe me, this food is astonishing!" **Score point is 6.**

**Word Choice:** Words convey the intended message in an interesting and a natural way. The writer employs a broad range of words such as "admit", "majority", "lucious", "decision", "informed", "cultures", and "respect". Writer should avoid overused words such as "fabulous." **Score point is 5.**

**Sentence Fluency:** The writer uses consistently strong and varied structure that makes expressive oral reading easy and enjoyable. The writer's sentence structure enhances meaning by drawing attention to key ideas. For instance, "One food I suggest is an In-N-Out burger meal completed with French fries." "Although you have many choices for lunch, some dislike your food." **Score point is 6.**

**Conventions:** Errors are so few and so minor that the reader can easily skim right over them unless specifically searching for them. Paragraph breaks reinforce the organizational structure. There is little or no need for editing. **Score point is 6.**

# Mathematics

Mathematics is used as a means to communicate about quantities, logical relationships, and unknowns. Such a simplistic statement may make students who are not planning to go to college ask why mathematics is necessary for them. While the ability to do computation is important, it is the skills of problem finding and problem solving, formalizing, abstract thinking, symbolic representation and interpretation, formulation of logical arguments, and objective reasoning that allow us to function effectively and understand our world.

Mathematics is the one area of coursework in the school curriculum where students are taught these skills, and where answers cannot be obtained just by common sense and guessing. Even without an ever-increasing reliance on technology, mathematical skills meet needs for practical everyday life, intelligent citizenship, and future employment. A study by Arizona State University indicated that students who opt out of advanced levels of mathematics and science may now eliminate up to 75% of career opportunities from which to choose<sup>†</sup>. Algebra has been called the academic passport for passage into virtually every facet of the job market. Employers want their employees to be able to set up problems, estimate solutions, identify how accurate solutions need to be, work with other people to reach goals, know the many different types of mathematics that exist, and determine which one is needed in a particular situation. It is clear that the mathematical literacy of the twentieth century will NOT be sufficient for the twenty-first century.

<sup>†</sup>ASU Research Fall 1998, p. 41

## About the Test

The AIMS DPA Mathematics test contains approximately 80 multiple-choice questions. Fifty-five of the items are AIMS questions. Fifteen items are *TerraNova* and AIMS questions, and 10 items are *TerraNova* questions. Calculators are not allowed; however, the calculations required can be readily handled with pencil and paper. The questions will emphasize conceptual understanding, process, and problem-solving skills rather than just computation skills.

## Hints for taking AIMS DPA Mathematics

- Remember, this is not a timed test. Take your time and do your best work.
- Check to see if your answer is reasonable.
- Since calculators are not allowed on this test, double-check your work!



# Sample Questions for Mathematics

## What To Expect From This Section

This AIMS DPA Student Guide for Mathematics provides examples of the format and types of questions that will appear on AIMS Mathematics. An attempt has been made to provide a sampling of the types of questions that might be asked; however, not every concept in each standard has a corresponding sample question in this guide. An answer key for all Mathematics sample questions is provided in the appendices. Additionally, you will find an AIMS DPA Mathematics Reference Sheet in the appendices. The reference sheet in the actual AIMS DPA Mathematics test will be revised to reflect on the formulas and other information that will be included on the test.

## Strand 1: Number Sense and Operations

### General concepts you should know :

- Real number system and its various subsystems (natural, whole, integers, and rational)
- Operations with integers
- Scientific notation
- Estimation strategies

1 Which of the following is the least common multiple (LCM) of 6 and 10?

- A 2
- B 10
- C 30
- D 60

2 What is the simplified form of the expression below?

$$84 \div (3 + 1)$$

- A 21
- B 28
- C 29
- D 42

3 Sixth graders at Rattlesnake school held a “Penny War” coin collection drive to raise money for some new equipment. The numbers of jars of coins collected by each class are shown below.

- ★ Ms. Alley’s class:  $4\frac{2}{3}$
- ★ Mr. Horne’s class:  $7\frac{2}{3}$
- ★ Ms. Lewis’ class:  $6\frac{1}{2}$

What is the total number of jars of coins collected?

- A  $17\frac{5}{3}$
- B  $17\frac{5}{6}$
- C  $18\frac{5}{3}$
- D  $18\frac{5}{6}$

4 Tom's backpack contained the following items:

- ✓ One 8-pound sleeping bag
- ✓ Nine 1.5-pound meals
- ✓ Four 2-pound water bottles

Which of the following is closest to the total weight of the items in Tom's backpack?

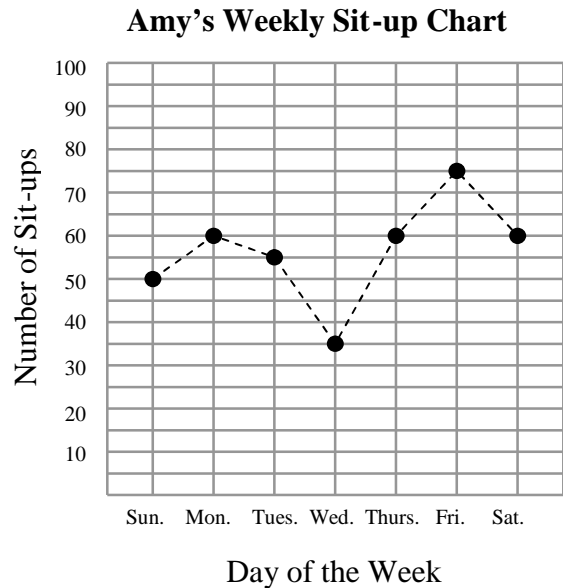
- A 12 pounds
- B 18 pounds
- C 23 pounds
- D 26 pounds

**Strand 2: Data Analysis, Probability and Discrete Math**

**General concepts you should know :**

- Graphs (histograms, line graphs, circle graphs, frequency charts, stem-and-leaf plots, and scatter plots)
- Measures of central tendency, variability and correlation (mean, median, mode, and range)
- Pattern prediction
- Probability
- Probable outcomes of events
- Systematic listing and counting; outcomes sets
- Use of combinations vs. permutations

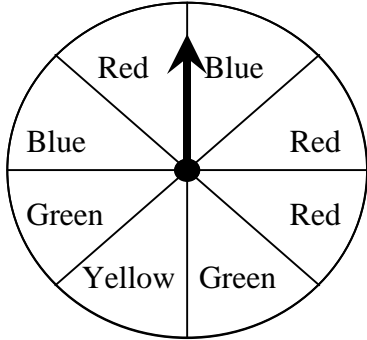
5 The graph below shows the number of sit-ups Amy did each day for a week.



Which of the following day(s) did Amy do the fewest sit-ups?

- A Monday
- B Wednesday
- C Thursday
- D Sunday

- 6 Jennifer predicted that the spinner below would stop most often on red, since there were more red spaces on the spinner than any other color. Then she recorded the results of 20 spins.



Which results match Jennifer's prediction?

- A Red – 9 Blue – 4 Green – 5 Yellow – 2  
 B Red – 7 Blue – 3 Green – 7 Yellow – 3  
 C Red – 6 Blue – 4 Green – 7 Yellow – 3  
 D Red – 5 Blue – 7 Green – 3 Yellow – 5
- 7 Mary rolled a cube with sides numbered from 1 to 6 and recorded her results in the chart below.

1 <sup>st</sup> roll	2 <sup>nd</sup> roll	3 <sup>rd</sup> roll	4 <sup>th</sup> roll	5 <sup>th</sup> roll	6 <sup>th</sup> roll
1	2	3	4	5	

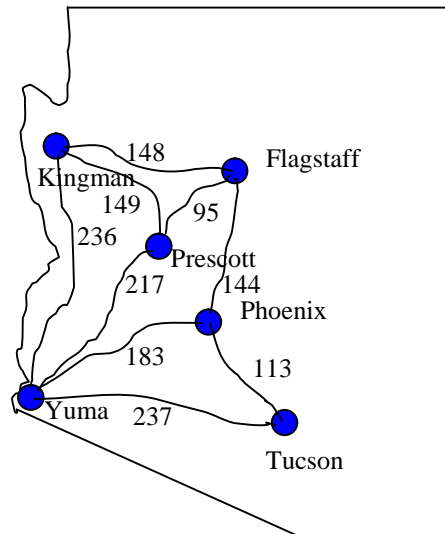
What is the probable result of the 6<sup>th</sup> roll?

- A definitely will be a 6  
 B most likely to be a 6  
 C least likely to be a 6  
 D equally likely to be any number 1 to 6

- 8 Javier, Lisa, Michael, and Lamar sit in a row in Mrs. Yoder's class. How many different ways can she arrange them in the row?

- A 24  
 B 12  
 C 10  
 D 4

- 9 The distance, in miles, between certain cities in Arizona are shown below.



What is the shortest path shown from Tucson to Kingman?

- A Tucson to Yuma to Kingman  
 B Tucson to Phoenix to Flagstaff to Kingman  
 C Tucson to Phoenix to Yuma to Kingman  
 D Tucson to Phoenix to Flagstaff to Prescott to Kingman

### Strand 3: Patterns, Algebra and Functions

General concepts you should know :

- Identify and extend patterns
- Graphing, evaluating, simplifying, and solving simple linear equations
- The slope of a line and what it represents

10 Megan used an input/output model that produced the following numbers.

Input	Output
48	4
72	6
108	9

What is the rule for the input/output model?

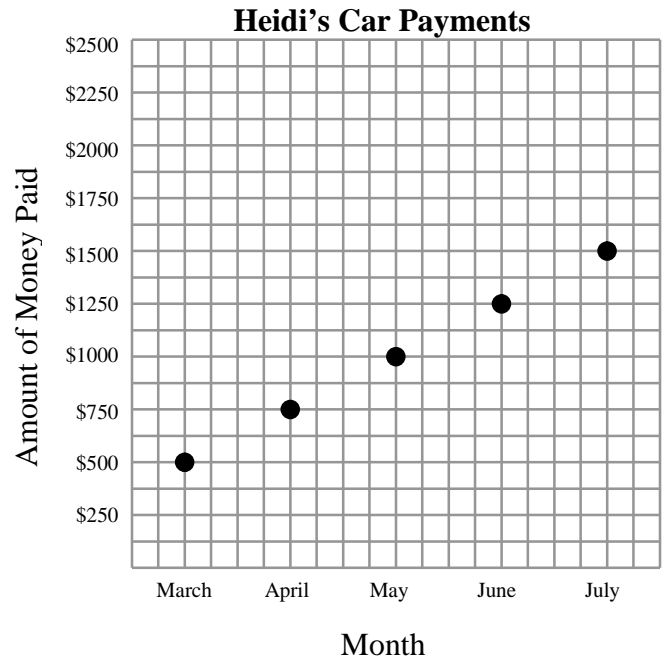
- A add 44
- B subtract 44
- C divide by 12
- D multiply by 12

11 What is the value of  $x$  in the equation below?

$$14x = 126$$

- A 9
- B 8
- C 7
- D 6

12 The graph below represents the amount of money Heidi has paid toward the purchase of a car.



How much money had Heidi paid on her car after she made her June payment?

- A \$750
- B \$1000
- C \$1250
- D \$1500

- 13 Jamal makes 3 rings each hour he works. He kept track of the total number of rings he has made in the chart below.

Number of Rings Made								
Hour	1	2	3	4	5	6	7	8
Total Rings Made	3	6	9	12	15			

If Jamal continues making rings at the same rate, how many hours will it take for him to make a total of 80 rings?

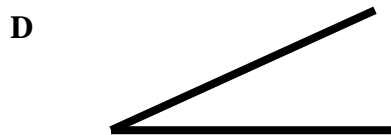
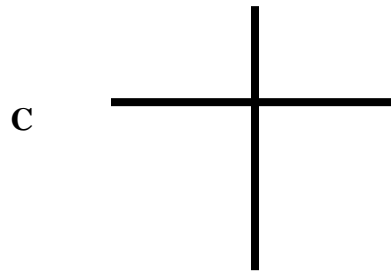
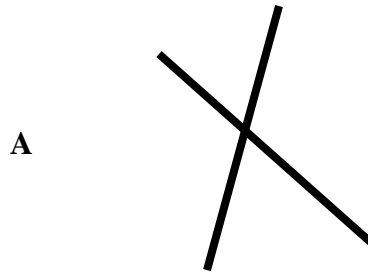
- A 32 hours
- B 27 hours
- C 26 hours
- D 22 hours

#### Strand 4: Geometry and Measurement

General concepts you should know :

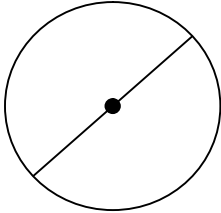
- Geometric relationships (parallelism, perpendicularity, congruency)
- Angle characteristics (complementary, supplementary, and congruent)
- Circle characteristics (arcs, chords and inscribed angles)
- Identification of prisms, pyramids, cones, cylinders, and spheres
- Transformations (reflections, rotations, dilations, translations; symmetry)
- Appropriate units of measure, applications of techniques and formulas
- Perimeter, area, volume; measuring line segments, lines, angles, 2-D and 3-D figures

- 14 Which of the following figures appears to represent parallel lines?

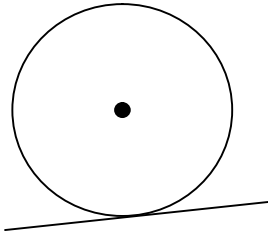


15 Which of the following represents a radius of a circle?

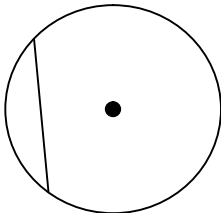
A



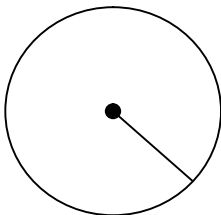
B



C



D



16 A performance troupe presents 8 one-act plays each Saturday. Each play lasts 25-minutes and there is a 10-minute break between plays.

How many total hours does it take for the troupe to present the plays each Saturday?

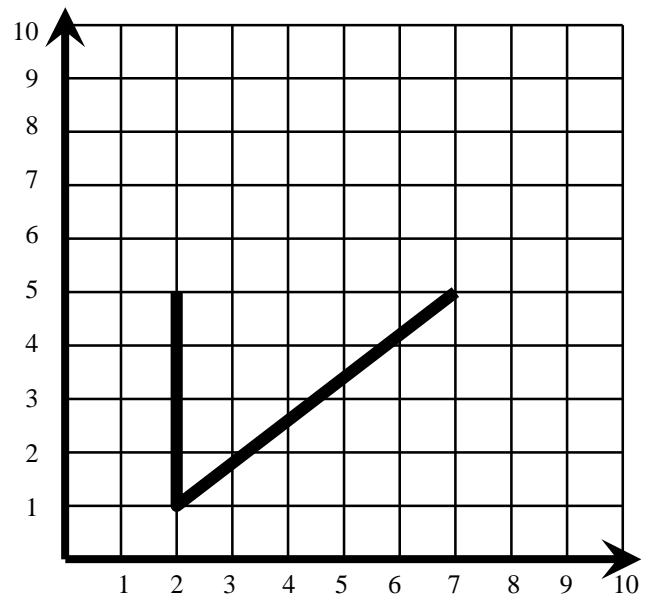
A  $4\frac{1}{2}$  hours

B 4 hours

C  $3\frac{1}{3}$  hours

D 3 hours

12 Stephanie began drawing a parallelogram, shown below.



What are the coordinates (ordered pair) of the missing vertex?

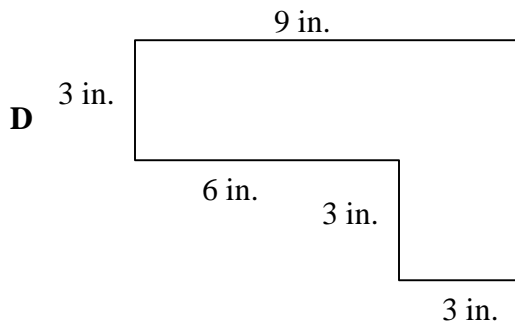
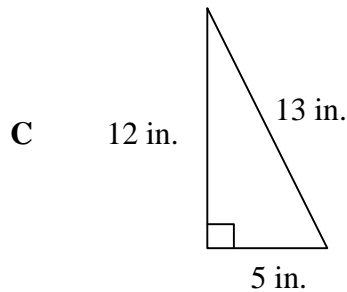
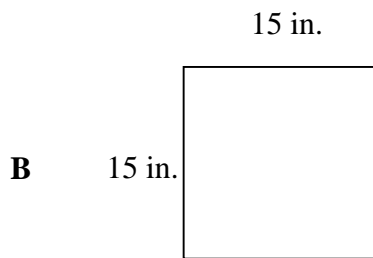
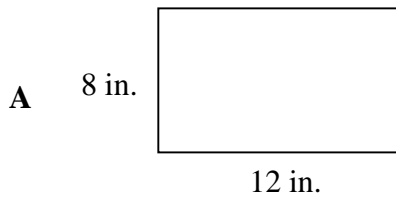
A (7, 8)

B (8, 7)

C (7, 9)

D (9, 8)

18 Which of the following polygons has an area of 30 square inches?



## Strand 5: Structure and Logic

**General concepts you should know :**

- Inductive and deductive reasoning
- Validity of arguments

19 The following are the results for the highest scores on Mrs. Pundt's reading test.

- Marion scored higher than Mark, but lower than Marilyn.
- Ruben's score was one point higher than Marilyn.

Which of the following is the correct order for the students' scores, from highest to lowest?

- A** Auben, Marilyn, Mark, Marion
- B** Mark, Marion, Marilyn, Ruben
- C** Mark, Marion, Ruben, Marilyn
- D** Ruben, Marilyn, Marion, Mark

# Scoring Keys

## Reading Key

Question #1: D  
Question #2: C  
Question #3: B  
Question #4: D  
Question #5: A  
Question #6: C  
Question #7: A

## Mathematics Key:

Question #1: C  
Question #2: A  
Question #3: D  
Question #4: D  
Question #5: B  
Question #6: A  
Question #7: D  
Question #8: A  
Question #9: B  
Question #10: C  
Question #11: A  
Question #12: C  
Question #13: B  
Question #14: B  
Question #15: D  
Question #16: A  
Question #17: C  
Question #18: C  
Question #19: D



# AIMS Six Trait Analytic Writing Rubric – Official Scoring Guide

## IDEAS and CONTENT

<p><b>6</b></p> <p>The writing is exceptionally clear, focused and interesting. It holds the reader’s attention throughout. Main ideas stand out and are developed by strong support and rich details suitable to audience and purpose. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• clarity, focus, and control.</li> <li>• main idea(s) that stand out.</li> <li>• supporting, relevant, carefully selected details; when appropriate, use of resources provides strong, accurate, credible support</li> <li>• a thorough, balanced, in-depth explanation/ exploration of the topic; the writing makes connections and shares insights.</li> <li>• content and selected details that are well suited to audience and purpose.</li> </ul>	<p><b>5</b></p> <p>The writing is clear, focused and interesting. It holds the reader’s attention. Main ideas stand out and are developed by supporting details suitable to audience and purpose. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• clarity, focus, and control.</li> <li>• main idea(s) that stand out.</li> <li>• supporting, relevant, carefully selected details; when appropriate, use of resources provides strong, accurate, credible support.</li> <li>• a thorough, balanced explanation/exploration of the topic; the writing makes connections and shares insights.</li> <li>• content and selected details that are well-suited to audience and purpose.</li> </ul>	<p><b>4</b></p> <p>The writing is clear and focused. The reader can easily understand the main ideas. Support is present, although it may be limited or rather general. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• an easily identifiable purpose.</li> <li>• clear main idea(s)</li> <li>• supporting details that are relevant, but may be overly general or limited in places; when appropriate, resources are used to provide accurate support.</li> <li>• a topic that is explored/explained, although developmental details may occasionally be out of balance with the main idea(s); some connections and insights may be present.</li> <li>• content and selected details that are relevant, but perhaps not consistently well chosen for audience and purpose.</li> </ul>
<p><b>3</b></p> <p>The reader can understand the main ideas, although they may be overly broad or simplistic, and the results may not be effective. Supporting detail is often limited, insubstantial, overly general, or occasionally slightly off-topic. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• an easily identifiable purpose and main idea(s).</li> <li>• predictable or overly-obvious main ideas or plot; conclusions or main points seem to echo observations heard elsewhere.</li> <li>• support that is attempted; but developmental details that are often limited in scope, uneven, somewhat off-topic, predictable, or overly general.</li> <li>• details that may not be well-grounded in credible resources; they may be based on clichés, stereotypes or questionable sources of information.</li> <li>• difficulties when moving from general observations to specifics.</li> </ul>	<p><b>2</b></p> <p>Main ideas and purpose are somewhat unclear or development is attempted but minimal. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• a purpose and main idea(s) that may require extensive inferences by the reader.</li> <li>• minimal development; insufficient details.</li> <li>• irrelevant details that clutter the text.</li> <li>• extensive repetition of detail.</li> </ul>	<p><b>1</b></p> <p>The writing lacks a central idea or purpose. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• ideas that are extremely limited or simply unclear.</li> <li>• attempts at development that are minimal or non-existent; the paper is too short to demonstrate the development of an idea.</li> </ul>

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# AIMS Six Trait Analytic Writing Rubric – Official Scoring Guide

## ORGANIZATION

<p><b>6</b></p> <p>The organization enhances the central idea(s) and its development. The order and structure are compelling and move the reader through the text easily. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• effective, perhaps creative, sequencing; the organizational structure fits the topic, and the writing is easy to follow.</li> <li>• a strong, inviting beginning that draws the reader in and a strong satisfying sense of resolution or closure.</li> <li>• smooth, effective transitions among all elements (sentences, paragraphs, and ideas).</li> <li>• details that fit where placed.</li> </ul>	<p><b>5</b></p> <p>The organization enhances the central idea(s) and its development. The order and structure are strong and move the reader through the text. The writing is characterized by.</p> <ul style="list-style-type: none"> <li>• effective sequencing; the organizational structure fits the topic, and the writing is easy to follow.</li> <li>• an inviting beginning that draws the reader in and a satisfying sense of resolution or closure.</li> <li>• smooth, effective transitions among all elements (sentences, paragraphs, and ideas).</li> <li>• details that fit where placed.</li> </ul>	<p><b>4</b></p> <p>Organization is clear and coherent. Order and structure are present, but may seem formulaic. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• clear sequencing.</li> <li>• an organization that may be predictable.</li> <li>• a recognizable, developed beginning that may not be particularly inviting; a developed conclusion that may lack subtlety.</li> <li>• a body that is easy to follow with details that fit where placed.</li> <li>• transitions that may be stilted or formulaic.</li> <li>• organization which helps the reader, despite some weaknesses.</li> </ul>
<p><b>3</b></p> <p>An attempt has been made to organize the writing; however, the overall structure is inconsistent or skeletal. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• attempts at sequencing, but the order or the relationship among ideas may occasionally be unclear.</li> <li>• a beginning and an ending which, although present, are either undeveloped or too obvious (e.g. “My topic is...”, “These are all the reasons that...”)</li> <li>• transitions that sometimes work. The same few transitional devices (e.g., coordinating conjunctions, numbering, etc.) may be overused.</li> <li>• a structure that is skeletal or too rigid.</li> <li>• placement of details that may not always be effective.</li> <li>• organization which lapses in some places, but helps the reader in others.</li> </ul>	<p><b>2</b></p> <p>The writing lacks a clear organizational structure. An occasional organizational device is discernible; however, the writing is either difficult to follow and the reader has to reread substantial portions, or the piece is simply too short to demonstrate organizational skills. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• some attempts at sequencing, but the order or the relationship among ideas is frequently unclear.</li> <li>• a missing or extremely undeveloped beginning, body, and/or ending.</li> <li>• a lack of transitions, or when present, ineffective or overused.</li> <li>• a lack of an effective organizational structure.</li> <li>• details that seem to be randomly placed, leaving the reader frequently confused.</li> </ul>	<p><b>1</b></p> <p>The writing lacks coherence; organization seems haphazard and disjointed. Even after rereading, the reader remains confused. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• a lack of effective sequencing.</li> <li>• a failure to provide an identifiable beginning, body and/or ending.</li> <li>• a lack of transitions.</li> <li>• pacing that is consistently awkward; the reader feels either mired down in trivia or rushed along too rapidly.</li> <li>• a lack of organization which ultimately obscures or distorts the main point.</li> </ul>

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# AIMS Six Trait Analytic Writing Rubric – Official Scoring Guide

## VOICE

<p><b>6</b></p> <p>The writer has chosen a voice appropriate for the topic, purpose and audience. The writer seems deeply committed to the topic, and there is an exceptional sense of “writing to be read.” The writing is expressive, engaging, or sincere. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• an effective level of closeness to or distance from the audience (e.g., a narrative should have a strong personal voice, while an expository piece may require extensive use of outside resources and a more academic voice; nevertheless, both should be engaging, lively, or interesting. Technical writing may require greater distance.).</li> <li>• an exceptionally strong sense of audience; the writer seems to be aware of the reader and of how to communicate the message most effectively. The reader may discern the writer behind the words and feel a sense of interaction.</li> <li>• a sense that the topic has come to life; when appropriate, the writing may show originality, liveliness, honesty, conviction, excitement, humor, or suspense.</li> </ul>	<p><b>5</b></p> <p>The writer has chosen a voice appropriate for the topic, purpose, and audience. The writer seems committed to the topic, and there is a sense of “writing to be read.” The writing is expressive, engaging or sincere. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• an appropriate level of closeness to or distance from the audience (e.g., a narrative should have a strong personal voice while an expository piece may require extensive use of outside resources and a more academic voice; nevertheless, both should be engaging, lively or interesting. Technical writing may require greater distance.).</li> <li>• a strong sense of audience; the writer seems to be aware of the reader and of how to communicate the message most effectively. The reader may discern the writer behind the words and feel a sense of interaction.</li> <li>• a sense that the topic has come to life; when appropriate, the writing may show originality, liveliness, honesty, conviction, excitement, humor, or suspense.</li> </ul>	<p><b>4</b></p> <p>A voice is present. The writer demonstrates commitment to the topic, and there may be a sense of “writing to be read.” In places, the writing is expressive, engaging, or sincere. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• a questionable or inconsistent level of closeness to or distance from the audience.</li> <li>• a sense of audience; the writer seems to be aware of the reader but has not consistently employed an appropriate voice. The reader may glimpse the writer behind the words and feel a sense of interaction in places.</li> <li>• liveliness, sincerity, or humor when appropriate; however, at times the writing may be either inappropriately casual or personal, or inappropriately formal and stiff.</li> </ul>
<p><b>3</b></p> <p>The writer’s commitment to the topic seems inconsistent. A sense of the writer may emerge at times; however, the voice is either inappropriately personal or inappropriately impersonal. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• a limited sense of audience; the writer’s awareness of the reader is unclear.</li> <li>• an occasional sense of the writer behind the words; however, the voice may shift or disappear a line or two later and the writing become somewhat mechanical.</li> <li>• a limited ability to shift to a more objective voice when necessary.</li> </ul>	<p><b>2</b></p> <p>The writing provides little sense of involvement or commitment. There is no evidence that the writer has chosen a suitable voice. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• little engagement of the writer; the writing tends to be largely flat, lifeless, stiff, or mechanical.</li> <li>• a voice that is likely to be overly informal and personal.</li> <li>• a lack of audience awareness; there is little sense of “writing to be read.”</li> <li>• little or no hint of the writer behind the words. There is rarely a sense of interaction between reader and writer.</li> </ul>	<p><b>1</b></p> <p>The writing seems to lack a sense of involvement or commitment. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• no engagement of the writer; the writing is flat and lifeless.</li> <li>• a lack of audience awareness; there is no sense of “writing to be read.”</li> <li>• no hint of the writer behind the words. There is no sense of interaction between writer and reader; the writing does not involve or engage the reader.</li> </ul>

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# AIMS Six Trait Analytic Writing Rubric – Official Scoring Guide

## WORD CHOICE

<p><b>6</b></p> <p>Words convey the intended message in an exceptionally interesting, precise, and natural way appropriate to audience and purpose. The writer employs a rich, broad range of words, which have been carefully chosen and thoughtfully placed for impact. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• accurate, strong, specific words; powerful words energize the writing.</li> <li>• fresh, original expression; slang, if used, seems purposeful and is effective.</li> <li>• vocabulary that is striking and varied, but that is natural and not overdone.</li> <li>• ordinary words used in an unusual way.</li> <li>• words that evoke strong images; figurative language may be used.</li> </ul>	<p><b>5</b></p> <p>Words convey the intended message in an interesting, precise, and natural way appropriate to audience and purpose. The writer employs a broad range of words which have been carefully chosen and thoughtfully placed for impact. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• accurate, specific words; word choices energize the writing.</li> <li>• fresh, vivid expression; slang, if used, seems purposeful and is effective.</li> <li>• vocabulary that may be striking and varied, but that is natural and not overdone.</li> <li>• ordinary words used in an unusual way.</li> <li>• words that evoke clear images; figurative language may be used.</li> </ul>	<p><b>4</b></p> <p>Words effectively convey the intended message. The writer employs a variety of words that are functional and appropriate to audience and purpose. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• words that work but do not particularly energize the writing.</li> <li>• expression that is functional; however, slang, if used, does not seem purposeful and is not particularly effective.</li> <li>• attempts at colorful language that may occasionally seem overdone.</li> <li>• occasional overuse of technical language or jargon.</li> <li>• rare experiments with language; however, the writing may have some fine moments and generally avoids clichés.</li> </ul>
<p><b>3</b></p> <p>Language is quite ordinary, lacking interest, precision and variety, or may be inappropriate to audience and purpose in places. The writer does not employ a variety of words, producing a sort of “generic” paper filled with familiar words and phrases. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• words that work, but that rarely capture the reader’s interest.</li> <li>• expression that seems mundane and general; slang, if used, does not seem purposeful and is not effective.</li> <li>• attempts at colorful language that seem overdone or forced.</li> <li>• words that are accurate for the most part, although misused words may occasionally appear, technical language or jargon may be overused or inappropriately used.</li> <li>• reliance on clichés and overused expressions.</li> </ul>	<p><b>2</b></p> <p>Language is monotonous and/or misused, detracting from the meaning and impact. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• words that are colorless, flat or imprecise.</li> <li>• monotonous repetition or overwhelming reliance on worn expressions that repeatedly distract from the message.</li> <li>• images that are fuzzy or absent altogether.</li> </ul>	<p><b>1</b></p> <p>The writing shows an extremely limited vocabulary or is so filled with misuses of words that the meaning is obscured. Only the most general kind of message is communicated because of vague or imprecise language. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• general, vague words that fail to communicate.</li> <li>• an extremely limited range of words.</li> <li>• words that simply do not fit the text; they seem imprecise, inadequate, or just plain wrong.</li> </ul>

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# AIMS Six Trait Analytic Writing Rubric – Official Scoring Guide

## SENTENCE FLUENCY

<p><b>6</b></p> <p>The writing has an effective flow and rhythm. Sentences show a high degree of craftsmanship, with consistently strong and varied structure that makes expressive oral reading easy and enjoyable. The writing is characterized by</p> <ul style="list-style-type: none"><li>• a natural, fluent sound; it glides along with one sentence flowing effortlessly into the next.</li><li>• extensive variation in sentence structure, length, and beginnings that add interest to the text.</li><li>• sentence structure that enhances meaning by drawing attention to key ideas or reinforcing relationships among ideas.</li><li>• varied sentence patterns that create an effective combination of power and grace.</li><li>• strong control over sentence structure; fragments, if used at all, work well.</li><li>• stylistic control; dialogue, if used, sounds natural.</li></ul>	<p><b>5</b></p> <p>The writing has an easy flow and rhythm. Sentences are carefully crafted, with strong and varied structure that makes expressive oral reading easy and enjoyable. The writing is characterized by</p> <ul style="list-style-type: none"><li>• a natural, fluent sound; it glides along with one sentence flowing into the next.</li><li>• variation in sentence structure, length, and beginnings that add interest to the text.</li><li>• sentence structure that enhances meaning.</li><li>• control over sentence structure; fragments, if used at all, work well.</li><li>• stylistic control; dialogue, if used sounds natural.</li></ul>	<p><b>4</b></p> <p>The writing flows; however, connections between phrases or sentences may be less than fluid. Sentence patterns are somewhat varied, contributing to ease in oral reading. The writing is characterized by</p> <ul style="list-style-type: none"><li>• a natural sound; the reader can move easily through the piece, although it may lack a certain rhythm and grace.</li><li>• some repeated patterns of sentence structure, length, and beginnings that may detract somewhat from overall impact.</li><li>• strong control over simple sentence structures, but variable control over more complex sentences; fragments, if present, are usually effective.</li><li>• occasional lapses in stylistic control; dialogue, if used, sounds natural for the most part, but may at times sound stilted or unnatural.</li></ul>
<p><b>3</b></p> <p>The writing tends to be mechanical rather than fluid. Occasional awkward constructions may force the reader to slow down or reread. The writing is characterized by</p> <ul style="list-style-type: none"><li>• some passages that invite fluid oral reading; however, others do not.</li><li>• some variety in sentences structure, length, and beginnings, although the writer falls into repetitive sentence patterns.</li><li>• good control over simple sentence structures, but little control over more complex sentences; fragments, if present, may not be effective.</li><li>• sentences which, although functional, lack energy.</li><li>• lapses in stylistic control; dialogue, if used, may sound stilted or unnatural.</li></ul>	<p><b>2</b></p> <p>The writing tends to be either choppy or rambling. Awkward constructions often force the reader to slow down or reread. The writing is characterized by</p> <ul style="list-style-type: none"><li>• significant portions of the text that are difficult to follow or read aloud.</li><li>• sentence patterns that are monotonous (e.g., subject-verb or subject-verb-object).</li><li>• a significant number of awkward, choppy, or rambling constructions.</li></ul>	<p><b>1</b></p> <p>The writing is difficult to follow or to read aloud. Sentences tend to be incomplete, rambling, or very awkward. The writing is characterized by</p> <ul style="list-style-type: none"><li>• text that does not invite—and may not even permit—smooth oral reading.</li><li>• confusing word order that is often jarring and irregular.</li><li>• sentence structure that frequently obscures meaning.</li><li>• sentences that are disjointed, confusing, or rambling.</li></ul>

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## CONVENTIONS

<p><b>6</b></p> <p>The writing demonstrates exceptionally strong control of standard writing conventions (e.g., punctuation, spelling, capitalization, paragraph breaks, grammar and usage) and uses them effectively to enhance communication. Errors are so few and so minor that the reader can easily skim right over them unless specifically searching for them. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• strong control of conventions; manipulation of conventions may occur for stylistic effect.</li> <li>• strong, effective use of punctuation that guides the reader through the text.</li> <li>• correct spelling, even of more difficult words.</li> <li>• paragraph breaks that reinforce the organizational structure.</li> <li>• correct grammar and usage that contribute to clarity and style.</li> <li>• skill in using a wide range of conventions in a sufficiently long and complex piece.</li> <li>• little or no need for editing.</li> </ul>	<p><b>5</b></p> <p>The writing demonstrates strong control of standard writing conventions (e.g., punctuation, spelling, capitalization, paragraph breaks, grammar and usage) and uses them effectively to enhance communication. Errors are so few and so minor that they do not impede readability. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• strong control of conventions.</li> <li>• effective use of punctuation that guides the reader through the text.</li> <li>• correct spelling, even of more difficult words.</li> <li>• paragraph breaks that reinforce the organizational structure.</li> <li>• correct capitalization; errors, if any, are minor.</li> <li>• correct grammar and usage that contribute to clarity and style.</li> <li>• skill in using a wide range of conventions in a sufficiently long and complex piece.</li> <li>• little need for editing.</li> </ul>	<p><b>4</b></p> <p>The writing demonstrates control of standard writing conventions (e.g., punctuation, spelling, capitalization, paragraph breaks, grammar and usage). Minor errors, while perhaps noticeable, do not impede readability. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• control over conventions used, although a wide range is not demonstrated.</li> <li>• correct end-of-sentence punctuation, internal punctuation may sometimes be incorrect.</li> <li>• spelling that is usually correct, especially on common words.</li> <li>• basically sound paragraph breaks that reinforce the organizational structure.</li> <li>• correct capitalization; errors, if any, are minor.</li> <li>• occasional lapses in correct grammar and usage; problems are not severe enough to distort meaning or confuse the reader.</li> <li>• moderate need for editing.</li> </ul>
<p><b>3</b></p> <p>The writing demonstrates limited control of standard writing conventions (e.g., punctuation, spelling, capitalization, paragraph breaks, grammar and usage). Errors begin to impede readability. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• some control over basic conventions; the text may be too simple to reveal mastery.</li> <li>• end-of-sentence punctuation that is usually correct; however, internal punctuation contains frequent errors.</li> <li>• spelling errors that distract the reader; misspelling of common words occurs.</li> <li>• paragraphs that sometimes run together or begin in ineffective places.</li> <li>• capitalization errors.</li> <li>• errors in grammar and usage that do not block meaning but do distract the reader.</li> <li>• significant need for editing.</li> </ul>	<p><b>2</b></p> <p>The writing demonstrates little control of standard writing conventions. Frequent, significant errors impede readability. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• little control over basic conventions.</li> <li>• many end-of-sentence punctuation errors; internal punctuation contains frequent errors.</li> <li>• spelling errors that frequently distract the reader; misspelling of common words often occurs.</li> <li>• paragraphs that often run together or begin in ineffective places.</li> <li>• capitalization that is inconsistent or often incorrect.</li> <li>• errors in grammar and usage that interfere with readability and meaning.</li> <li>• substantial need for editing.</li> </ul>	<p><b>1</b></p> <p>Numerous errors in usage, spelling, capitalization, and punctuation repeatedly distract the reader and make the text difficult to read. In fact, the severity and frequency of errors are so overwhelming that the reader finds it difficult to focus on the message and must reread for meaning. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• very limited skill in using conventions.</li> <li>• basic punctuation (including end-of-sentence punctuation) that tends to be omitted, haphazard, or incorrect.</li> <li>• frequent spelling errors that significantly impair readability.</li> <li>• paragraph breaks that may be highly irregular or so frequent (every sentence) that they bear no relation to the organization of the text.</li> <li>• capitalization that appears to be random.</li> <li>• a need for extensive editing.</li> </ul>

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# AIMS DPA Mathematics Reference Sheet

## PLANE FIGURES: PERIMETERS AND AREAS

Name	Notation	Perimeter ( $P$ ) Circumference ( $C$ )	Area ( $A$ )
Triangle	$a, b, c =$ sides $h =$ height	$P = a + b + c$	$A = \frac{1}{2}bh$ or $A = \frac{b \times h}{2}$
Rectangle	$b =$ base $h =$ height	$P = 2(h + b)$	$A = b \times h$
Circle	$r =$ radius $d =$ diameter	$C = \pi d$ or $C = 2\pi r$	$A = \pi r^2$
Parallelogram	$a, b =$ sides $h =$ height	$P = 2(a + b)$	$A = b \times h$
Trapezoid	$a, b, c, d =$ sides $B_1 =$ long base $B_2 =$ short base $h =$ height	$P = a + b + c + d$	$A = \frac{(B_1 + B_2)h}{2}$
			Use 3.14 or $\frac{22}{7}$ for $\pi$

## GEOMETRIC SOLIDS: VOLUMES

Name	Notation	Volume ( $V$ )
Rectangular Prism	$l =$ length $w =$ width $h =$ height	$V = l \times w \times h$
Rectangular Pyramid	$B =$ area of the base $h =$ height	$V = \frac{1}{3}Bh$ or $V = \frac{B \times h}{3}$
Right Cylinder	$r =$ radius $h =$ height	$V = \pi r^2 h$
Right Cone	$r =$ radius $h =$ height	$V = \frac{1}{3}\pi r^2 h$ or $V = \frac{\pi r^2 h}{3}$
Sphere	$r =$ radius	$V = \frac{4}{3}\pi r^3$

## GEOMETRIC SOLIDS: SURFACE AREAS

Name	Notation	Surface Area ( $SA$ )
Rectangular Prism	$l =$ length $w =$ width $h =$ height	$SA = 2lw + 2lh + 2wh$
Right Cylinder	$r =$ radius $h =$ height	$SA = 2(\pi r^2) + 2\pi rh$

# Test-Taking Strategies

- **Be physically prepared.** Get plenty of rest the night before. On the day of the test, eat a healthy breakfast.
- **Be mentally prepared.** Try to relax and do your best. View the test as an opportunity to truly show what you know and are able to do.
- **Listen to directions** as the teacher explains them. Ask about any directions you do not understand.
- **Read the directions carefully.**
- **Look for key words** that will help you identify what the question is asking you to do.
- **Take your time** and work at your own pace. AIMS DPA is not a timed test, but you do want to use your time well.
- **Move on** to the next item if you are stuck. Be sure to return to it later.
- **Make educated guesses** if you are unsure of an answer: first eliminate choices that are obviously incorrect, then logically select from the remaining choices.
- **Take the time to review your answers** when you are finished. Re-read your written responses to check that they are clear.



# NOTES