DOCUMENT RESUME

ED 316 402 SE 051 226

TITLE	Algebra I. Report of Student Performance. End of Course Testing, Spring 1989.
INSTITUTION	North Carolina State Dept. of Public Instruction, Div. of Accountability.
PUB DATE	89
NOTE	93p.; For related documents, see SE 051 227-228.
PUB TYPE	Reports - Evaluative/Feasibility (142) -- Statistical Data (110)
EDRS PRICE	MF01/PC04 Plus Postage.
DESCRIPTORS	*Algebra; Educational Assessment; High Schools; Mathematical Concepts; *Mathematics Achievement; Mathematics Education; *Mathematics Tests; *Secondary School Mathematics; State Surveys; Statistical Data; *Student Evaluation
IDENTIFIERS	*North Carolina

ABSTRACT

The North Carolina End-of-Course Testing Program was established to provide student, school, and school system information about achievement in high school courses. This report describes: (1) "Characteristics of Algebra I Students"; (2) "Student Performance on the Core Test"; (3) "Combining Performance and Participation: Yield and Effective Yield"; (4) "Anticipated Final Grades and Scores on the Core Test"; and (5) "Average Performance on the Curriculum Test." Each Algebra I student took a test containing 60 common or core items and one of five different sets of 35 items during the final days of the school year. The average core score was 39.8, or 66.4 percent correct. Performance on the core test differed by parental education, ethnic group, grade level in school, and anticipated final course grade. The select group of students taking Algebra I in the eighth grade had higher average scores than students at any other grade level. Performance and participation rates in educational regions and public school systems, and state percentile tables for 1986-1989 are provided in the appendices. (YP)

FOREWORD

The End-of-Course Testing Program was established in 1985-36 to provide comparative information about student performance and curricular information about school and school system performance on the goals and objectives outlined in the Standard Course of Study and the Teacher Handbook. By assessing student achievement in this manner, state and local educators can determine the degree to which students are meeting the expectations set forth in the Standard Course of Study.

Algebra I was the first course assessed in the End-of-Course Testing Program in 1986. Since that year, the proportion of students taking Algebra I has increased slightly and average test scores have increased statewide by 2.1 points. If the gain in achievement were interpreted on a letter grade scale, the increase since 1986 would be close to half of a letter grade. The gains have been made by students of both genders and all ethnic groups; and it is especially encouraging to see the high gains coming from students enrolled in honors Algebra I.

It is noteworthy, however, that the student participation rate in Algebra I varies considerably among school units and the opportunity to begin an accelerated mathematics course in the eighth grade still does not exist in some schools.

Improvement in Algebra I performance and participation across the state should be commended. Both of these indices of effective Algebra I programs should continue to improve in future years as school systems put forth thei best efforts to improve secondary education in North Carolina.

Bob Etheridge
State Superintendent of Public Instruction

ABSTRACT

The North Carolina End-of-Course Testing Program was established to provide student, school, and school system information about achievement in high school courses. The first Algebra I End-of-Course Test was administered in 1985-86. Algebra II and Biology were added to the testing program in 1986-87 and U.S. History was added in 1987-88. Geometry and Chemistry were added in 1988-89. Other high school courses will be added in future years.

The 60,183 students who took the Algebra I End-of-Course Test in 1988-89 were a subgroup of the school population in the eighth through twelfth grades. The proportion of students taking Algebra I has increased slightly each year since 1986. School systems vary in the proportion of students that take Algebra I during their school career and in the proportion of students that take Algebra I at different grade levels. Although students whose parents have less than a high school education and black students appear to be underrepresented in Algebra I classes across the state, the proportion of Algebra I students that are black increased from 1986 through 1988, and stayed at the same level during 1989.

Each Algebra I student took a test containing 60 common or core items and one of five different sets of 35 items during the final days of the school year. The average core score in 1989 was 39.8, or 66.4 percent correct. On average, the 1989 Algebra I students scored 0.6 raw score points higher than 1987 and 1988 Algebra I students, and 2.1 raw score points higher than 1986 Algebra I students. Performance on the core test differed by parental education, ethnic group, grade level in school, and anticipated final course grade. The select group of students taking Algebra I in the eighth grade had higher average scores than students at any other grade level. The grading standards for eighth-grade performance appear to be higher than the standards for other students.

Schools and school systems can identify strengths and weaknesses in their instructional programs by examining relative performance on the goals and objectives measured by the 469 items administered in 1988 and 1989. As in previous years, 1989 average performance on the basic goals taught early in the course was higher than average performance on the more complex goals taught at the end of the course. Also, it appears that some areas of the curriculum need greater emphasis statewide.

Report of Student Performance

Algebra I

Spring 1989

Prepared by Chris Averett, Martha Ward, and Robert C. Evans, Jr.
Division of Accountability Services
North Carolina Department of Public Instruction
Raleigh, NC 27603-1332

Bob Etheridge
State Superintendent of Public Instruction

Published 1989

ACKNOWLEDGEMENTS

Development of a comprehensive report of student and school system performance in Algebra I requires the effort of many individuals. We would like to thank Randy Harter of Buncombe County for suggesting the effective yield index; Andrew McEachern for his careful reading of the report to verify accuracy of numbers and statements; Kevin Kirby and Marilyn Zuckerman for producing the plots and graphs; George Stubblefield for producing many of the tables; and Faye Atkinson and Stephanie Moultrie for insuring that the final copies were made, collated, and distributed.

TABLE OF CONTENTS

List of Tables

List of Figures

List of Figures (continued)

Introduction

North Carolina has developed six end-of-course tests and is in the process of developing additional end-of-course tests within a number of subject areas. The purposes of the tests are twofold:

1. The tests provide information about each individual student's performance relative to that of other students in North Carolina.

2. The tests provide information about school and school system achievement on the subject area goals and objectives specified in the *Standard Course of Study* and the *Teacher Handbook*.

The development of all the end-of-course tests will require many years of effort. End-of-course tests are the final product of a process which includes: curriculum development and review; statewide curriculum surveys; test specification; the writing, review, and field-testing of a large pool of test items matched to objectives in the *Teacher Handbook*; test construction using selected items from the pool; and review, field-testing, and equating of different forms of each test. Several forms of each end-of-course test are developed so that the same tests are not administered in subsequent years.

Based on statewide enrollment patterns and recommendations made by two commissions on education, the subject areas chosen for initial test development were biology and Algebra I. Item pools for these two courses were built in the spring of 1985. The results of the item development phase indicated that the Algebra I items were sufficient in quality and quantity to meri. building end-of-course tests. Additional biology items and an item bank for Algebra II were developed during the 1985-86 school year, including field-testing in selected sites in May of 1986. In addition to Algebra I, both Biology and Algebra II End-of-Course Tests were administered statewide at the end of the 1986-87 school year. Since then, tests in additional courses have been added to the End-of-Course Testing Program at the rate of one or two a year. The State Board of Education's schedule for development of end-of-course tests through the 1991-92 school year is displayed in a chart on the final page of this report.

Although end-of-course tests for different subject areas will vary in length, 110 minutes will be sufficient for administration of the multiple-choice tests in all subjects. The State Board of Education requires that end-of-course tests be administered during 110-minute periods within the last 10 days of school, and recommends that they be administered during final exam periods. In order for scores to be returned to school systems prior to the end of the school year, the proofs portion of the geometry test is administered during regular class periods in the spring. Also, when implemented in 1991-92, the English II essay test may be administered during the spring for scoring to occur prior to the end of the year.

The first North Carolina Algebra I End-of-Course Test was administered at the end of the 1985-86 school year. Five forms of the Algebra I test were administered within each classroom. Each form consisted of 60 common items (the core test) and 40 variable items. In 1987, 1988, and 1989, five additional forms were administered within each classroom each year. The 1987, 1988 and 1989 test forms included new, statistically equivalent, core tests (60 items) and 35 new variable items. Comparisons of performance on the core items are appropriately made across individual students. Average core scores at the initial administration of the test in 1986 provide a baseline with which to compare subsequent performance. Statewide performance on the entire set of 234 items provides a standard to which school and school system achievement of goals and objectives can be compared.[1]

---

[1]While 235 items were administered in each classroom, due to a typographical error, one variable test item was removed from all reporting.

Characteristics of Algebra I Students

Other North Carolina testing programs assess achievement in basic subject areas of an entire cohort or class of students. End-of-course assessments are different in two ways. First, some of the courses are offered to students at different grade levels. Second, some courses are not required of all students; the students who take the courses are a subgroup of the total student population.

Table 1 compares certain characteristics of Algebra I students with the broader population of all enrolled students. The top portion of the table provides the distribution of Algebra I students at various grade levels compared with the average daily membership in those grades. While the largest percentage of Algebra I students (40.7) was in the ninth grade, 17.8 percent were in the eighth grade and 29.9 percent were in the tenth grade. About 13.0 percent of the eighth-grade class, 27.9 percent of the ninth-grade class, and 21.8 percent of the tenth-grade class were enrolled in Algebra I during 1988-89. In 22 of the 139 school systems in North Carolina 20 percent or more of eighth-grade students were enrolled in Algebra I. No eighth-grade students were enrolled in Algebra I in 21 school systems.

Although the number of students taking Algebra I has decreased over the previous three years, the proportion of enrolled students taking Algebra I has increased slightly. From the cross-section of 60,183 students who took Algebra I in different grade levels in 1988-89, an estimate of the percent of a cohort, or class, of students who eventually take Algebra I in their school career can be obtained by using enrollment in one grade level as a cohort estimate. Using ninth-grade enrollment, an estimate of 68.6 percent will take Algebra I before they graduate from high school.[1] In 1989, this estimate varied considerably among school systems, from a low of 37.3 percent to a high of 100.0 percent (see Table 11 in the Appendix).

The second section of Table 1 compares the ethnic composition of Algebra I with the ethnic composition of K-12 pupil membership.[2] Compared with their distribution in the school population, black students appear to be underrepresented and white students appear to be overrepresented in Algebra I classrooms across the state. However, the gap in participation by ethnic group has narrowed slightly since 1986-87.

The third section of Table 1 compares parental education levels of Algebra I students with parental education levels of students in the eighth grade statewide.[3] Students who have parents with an education beyond high school composed 63.0 percent of Algebra I students but only 43.0 percent of the eighth-grade class. On the other hand, students with less educated parents appear to be underrepresented in Algebra I classes across the state.

---

1 The proportion of North Carolina students taking Algebra I, both within grade level and within a cohort of students, is similar to a national estimate of Algebra I participation reported by Usiskin in the September, 1987, issue of *Mathematics Teacher*. Usiskin predicts growth in Algebra I participation, continuing a long trend of increasing percentages of students enrolled in algebra courses and reflecting recent state and school system requirements of algebra for high school graduation.

2 Obtained from Table 11, North Carolina Public Schools, *Statistical Profile 1989*.

3 Teachers recorded education level of the most educated parent of eighth-grade students taking the California Achievement Tests in 1988-89. Algebra I students recorded education level of their most educated parent.

Table 1

North Carolina Algebra I Students[1] Compared with 1988-89 First-Month Average Daily Membership in Eighth, Ninth, Tenth, Eleventh, and Twelfth Grades

GRADE	ADM	Algebra I Students[1]	Percent of ADM	Percent of Algebra I Students
Eighth	82,100	10,700	13.0	17.8
Ninth	87,675	24,495	27.9	40.7
Tenth	82,375	17,992	21.8	29.9
Eleventh	74,622	5,282	7.1	8.8
Twelfth/Other	72,278	1,714	2.4	2.8
TOTAL	399,050	60,183	15.1	100.0

Percent of a class of students[2] taking Algebra I = 68.6

1988-1989 K-12 Membership[3] and Algebra I Students by Ethnic Group

Ethnic Group	Membership	Percent of Membership	Algebra I Students[1]	Percent of Algebra I
American Indian	17,403	1.6	807	1.3
Black	328,395	30.4	15,666	26.2
White	720,698	66.7	42,310	70.7
Other	13,989	1.3	1,090	1.8
TOTAL	1,080,485	100.0	59,873	100.0

Parental Education of Eighth-Grade and Algebra I Students

Parental Education	Eighth Grade Students[4]	Percent of Students[4]	Algebra I Students[1]	Percent of Algebra I
Eighth Grade or Less	2,091	2.7	529	1.0
Eighth to Twelfth	10,814	14.0	5,068	8.5
High School Graduate	31,213	40.3	16,356	27.6
More Than High School	33,345	43.0	37,409	63.0
TOTAL	77,463	100.0	59,362	100.1

1 As identified in the 1988-1989 administration of the Algebra I End-of-Course Test.
2 The 1988-89 ninth-grade class was used as a proxy for a class of students.
3 Obtained from Table 11, North Carolina Public Schools, *Statistical Profile 1989*.
4 As identified in the 1988-89 administration of theCalifornia Achievement Tests

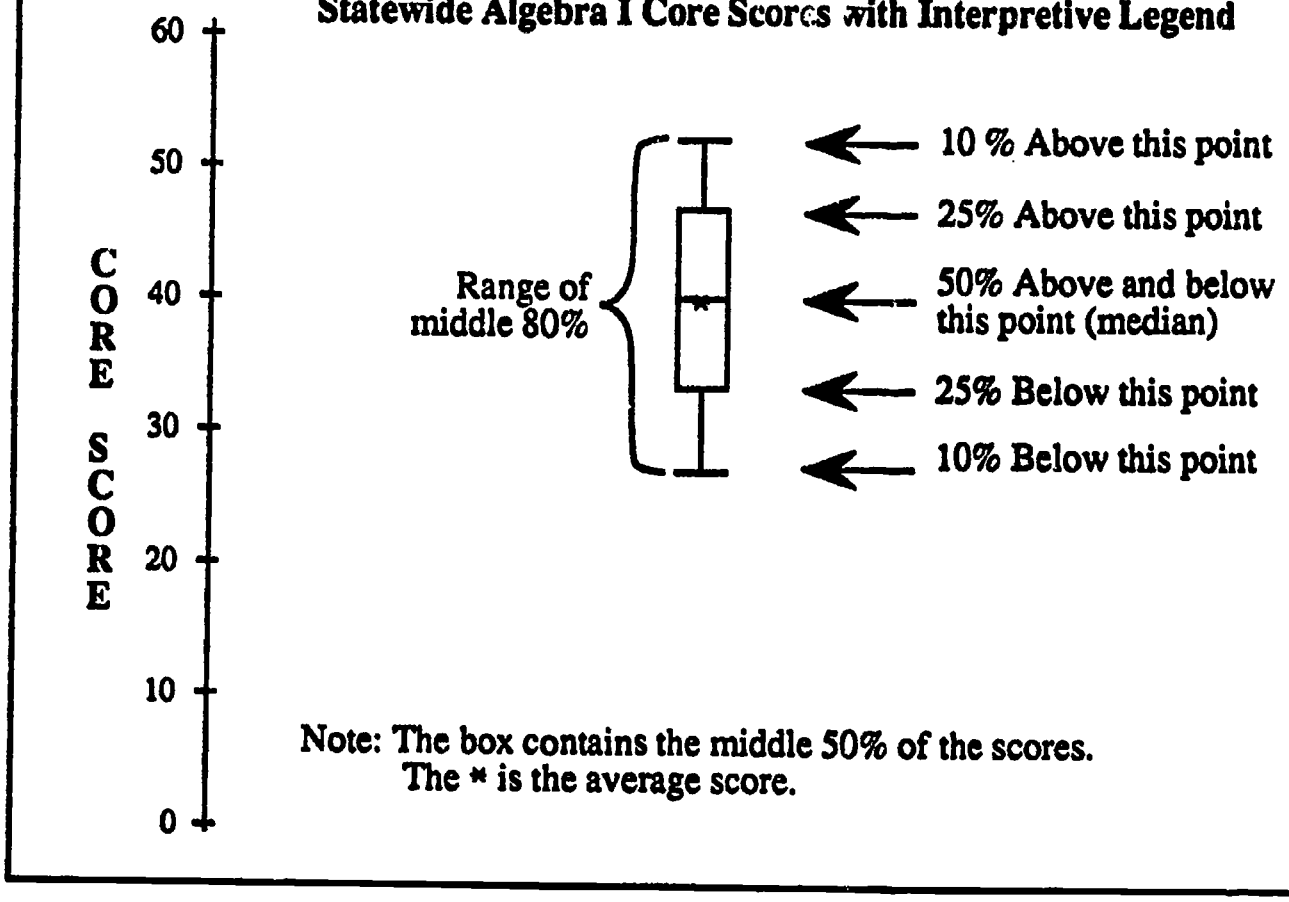
Student Performance on the Core Test

Summary scores for the 1989 core test and, for comparison, summary scores for the 1986, 1987 and 1988 administrations, are presented in Table 2. In 1989, the average score for the 60,183 students taking an equivalent core test was 39.8, or 66.4 percent correct. On average, 1989 Algebra I students scored 0.6 raw score points higher than 1987 and 1988 Algebra I students, and 2.1 raw score points higher than 1986 Algebra I students. See the Appendix for 1986, 1987, 1988, and 1989 state percentile distributions.

Group achievement on tests, whether for schools, school systems, or the state, is usually reported using summary numbers such as the average or median which indicate typical performance for the group. One number, whether it is the average or the median score, provides limited information about performance. *Box and whisker plots* are graphs which describe not only typical performance, but also the performance of most of the students by showing the spread of scores. Box and whisker plots allow the comparison of the high and low scores for different groups as well as the middle scores.

Figure 1 shows how to interpret the box and whisker plots using statewide Algebra I scores for 1988-89. The *box* represents the middle 50% of scores with the median represented by a horizontal line inside the box. An '*' inside the box shows the location of the average (mean) score. The *whiskers* extend up to the 90th percentile and down to the 10th percentile. The entire figure shows the range of the middle 80% of scores. As can be seen in Figure 1, about 50 percent of Algebra I students answered between 34 and 46 (inclusive) items correctly. About ten percent of the Algebra I students scored above 52 and ten percent scored below 28.

Figure 1. Box and Whisker Plot of Distribution of 1989 Statewide Algebra I Core Scores with Interpretive Legend



Note: The box contains the middle 50% of the scores.
The * is the average score.

Table 2

Average Performance on Algebra I Core Test: 1986-1989

GROUP	1986 Number Tested	1986 Average Score	1987 Number Tested	1987 Average Score	1988 Number Tested	1988 Average Score	1989 Number Tested	1989 Average Score
State	63,330	37.7	61,003	39.2	59,723	39.2	60,183	39.8
Sex								
Male	29,242	37.5	28,360	38.9	27,869	38.9	27,908	39.8
Female	33,699	38.0	32,243	39.5	31,627	39.4	32,036	39.9
Ethnic Group								
American Indian	869	33.2	820	35.9	774	34.9	807	36.9
Black	14,681	34.8	14,989	35.9	15,540	36.0	15,666	36.4
White	46,487	38.7	43,913	40.3	42,177	40.4	42,310	41.1
Other	833	41.6	929	43.0	926	42.8	1,090	43.5
Parental Education								
Less than Eighth Grade	658	34.7	531	37.7	569	36.5	529	36.9
Eighth to Twelfth	5,542	34.6	5,205	36.3	5,161	36.2	5,068	36.6
High School Graduate	17,635	36.5	16,833	37.9	16,471	37.6	16,356	38.0
More than Twelfth	37,123	39.0	35,839	40.5	36,516	40.4	37,409	41.2
Grade in School								
Eight	10,002	44.2	10,142	45.6	10,047	45.9	10,700	47.0
Nine	28,737	38.7	26,017	40.4	24,734	40.5	24,495	41.5
Ten	18,225	34.4	18,462	35.6	17,826	35.6	17,992	35.6
Eleven	4,849	33.0	4,868	33.9	5,506	33.8	5,282	33.8
Other	1,517	33.6	1,514	34.9	1,610	34.5	1,714	35.2
Type of Class								
Algebra I, Part II*			7,387	37.0	7,544	37.0	10,520	36.9
Regular Algebra I			45,741	38.8	46,486	38.8	45,509	39.7
Honors Algebra I			3,228	48.6	3,406	48.3	3,708	50.3

*Algebra I, Part II, is the second year of a two-year Algebra I course. Type of Class was not reported in 1986.

Table 2 also shows average performance on the 60-item core test by sex, parental education, ethnic group, grade in school, and type of class. Figures 2 through 5 show the distributions of Algebra I scores by various groups using box and whisker plots. Average performance for males was similar to average performance for females. The distributions of scores are also similar for males and females.

On average, white students and 'other' students scored higher than American Indian students and black students. Average scores and score distributions were similar for the three groups whose parents have no more than a high school education. Students who have parents educated beyond high school had higher average scores than students who have less educated parents.

The largest difference in average core scores and score distributions appeared among students taking Algebra I in different grade levels. Only 13.0 percent of the eighth-grade class took Algebra I; this select group of high achieving students scored higher than any other group. The average score for eighth-grade students was 47.0, more than 5 points higher than the average score for ninth-grade students, and more than 10 points higher than the average score for tenth-grade students. In Figure 5 it can be seen that 90 percent of eighth grade students scored above 35 while 75 percent of ninth grade students scored above this point. Only 50 percent of tenth and less than 50 percent of eleventh grade Algebra I students scored above this point.

The average score for students in the second year of a two-year Algebra I course in 1989 was 2.8 score points lower than that of regular Algebra I students. It appears that participation in the two-year course has increased, while average scores have remained stable. Students in honors or advanced Algebra I classes scored significantly higher than regular Algebra I students.

Combining Performance and Participation: Yield and Effective Yield

Since Algebra I is a selective course not taken by all students, performance may be related to participation within school systems or within the state. For example, if only the top 20 percent of students take Algebra I, scores will necessarily be higher than if the top 50 percent take Algebra I. *Yield* is an index of the effectiveness of an Algebra I program which takes into account both participation and performance. It is calculated by multiplying the percent of a class taking Algebra I by the percent of core items answered correctly and then multiplying by 100. Yield would be 100 if all students took Algebra I and all students achieved a perfect score. For the state, about 68.6 percent of a class of students took Algebra I in 1988-89 and these students achieved an average of 66.4 percent of core items correct, producing a yield of 45.6. If average achievement does not change, yield will increase whenever participation increases.

Effective Yield is a similar index but it counts as 'participating' in Algebra I only those students whose achievement is above a certain cutoff point. This cutoff point is an estimation of whether or not they will pass the course. The estimate for the cutoff point is 28. In 1985-86 Algebra I teachers indicated that approximately 14.7% of their students would receive a final grade of 'F'; the same year about 14.2% of students received a score below 28. For the state, the 'effective' percent of class, i.e. students scoring at or above 28 in 1988-89, was 53,812 of the 87,675 ninth grade students, or 61.4%, producing a yield of 40.8. Effective yield will be the same as yield only when all students taking Algebra I achieve at or above the estimated passing score of 28. Therefore, the effective yield index will normally be lower than the yield index.

Figure 2. Distributions of Algebra I Core Scores by Sex -- 1989

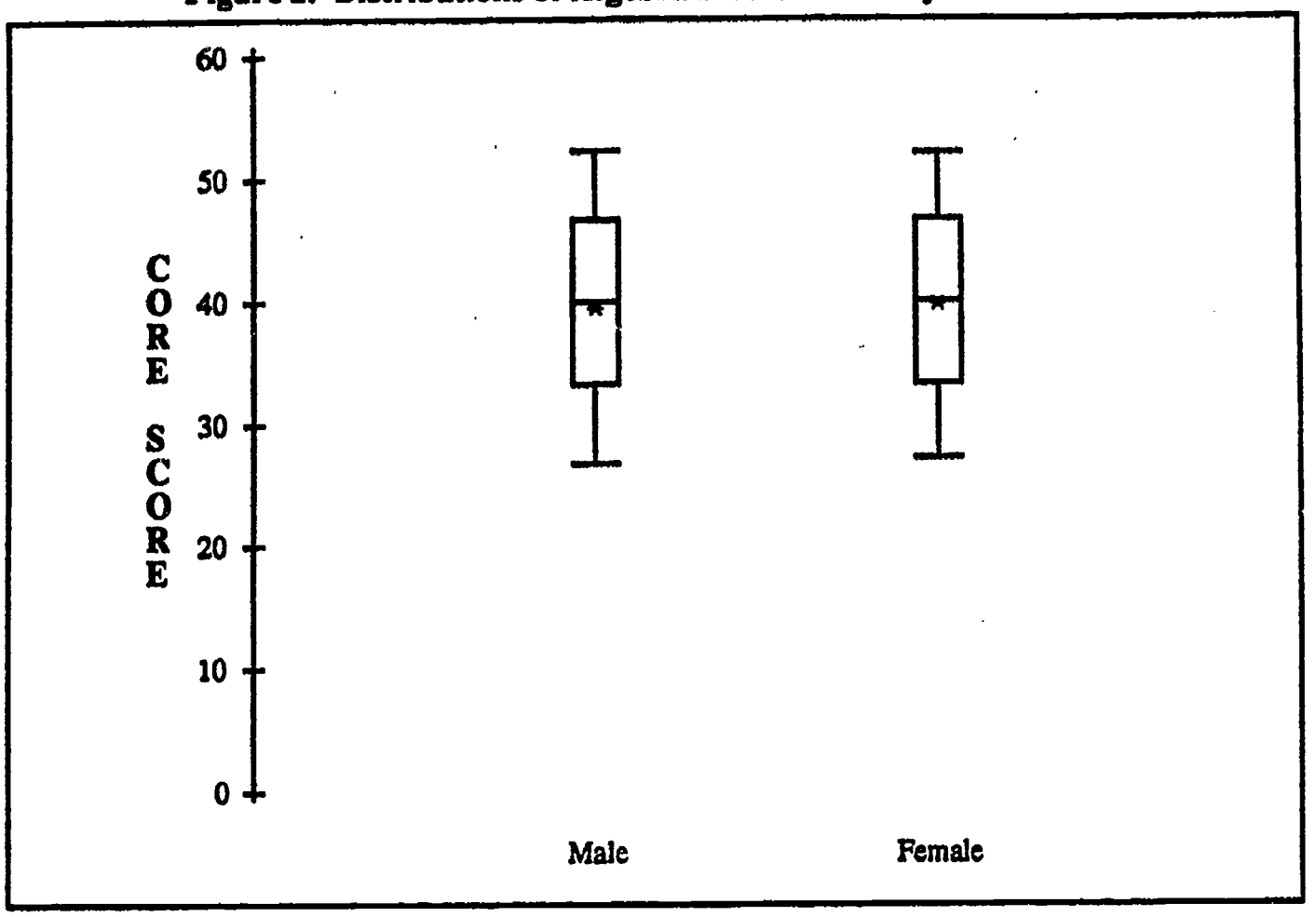


Figure 3. Distributions of Algebra I Core Scores by Ethnic Group -- 1989

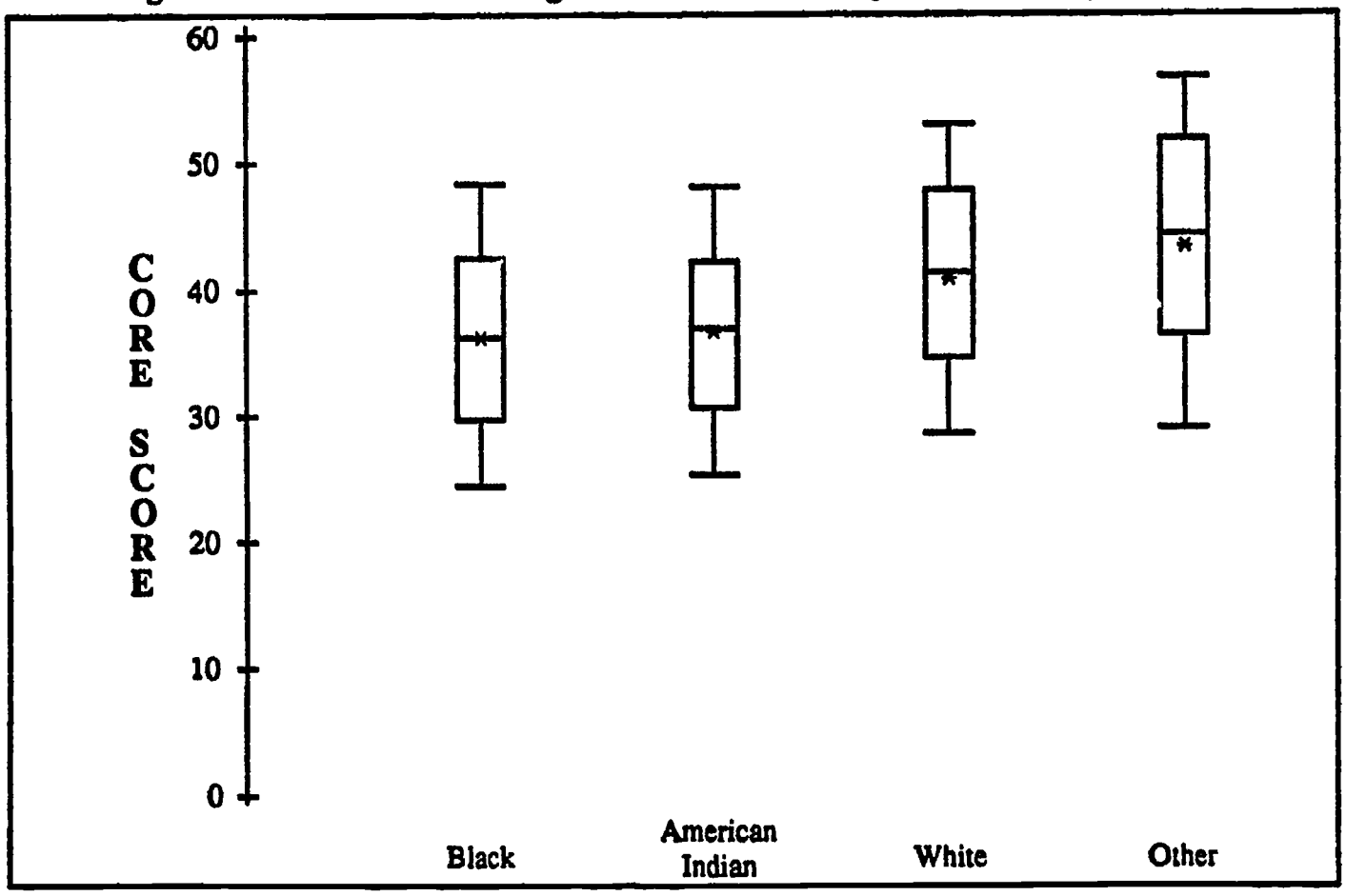


Figure 4. Distributions of Algebra I Core Scores by Parental Education -- 1989

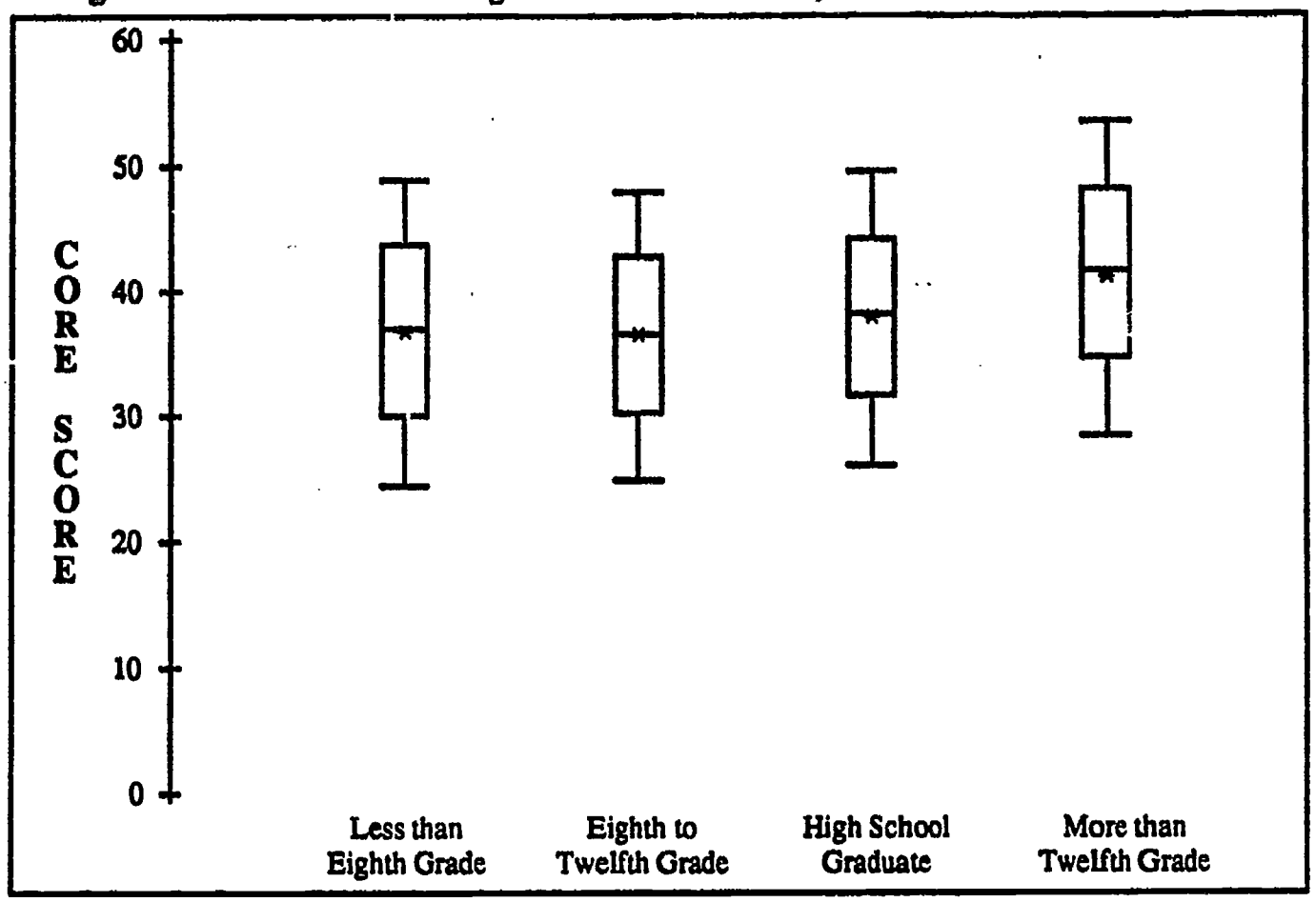


Figure 5. Distributions of Algebra I Core Scores by Grade Level -- 1989

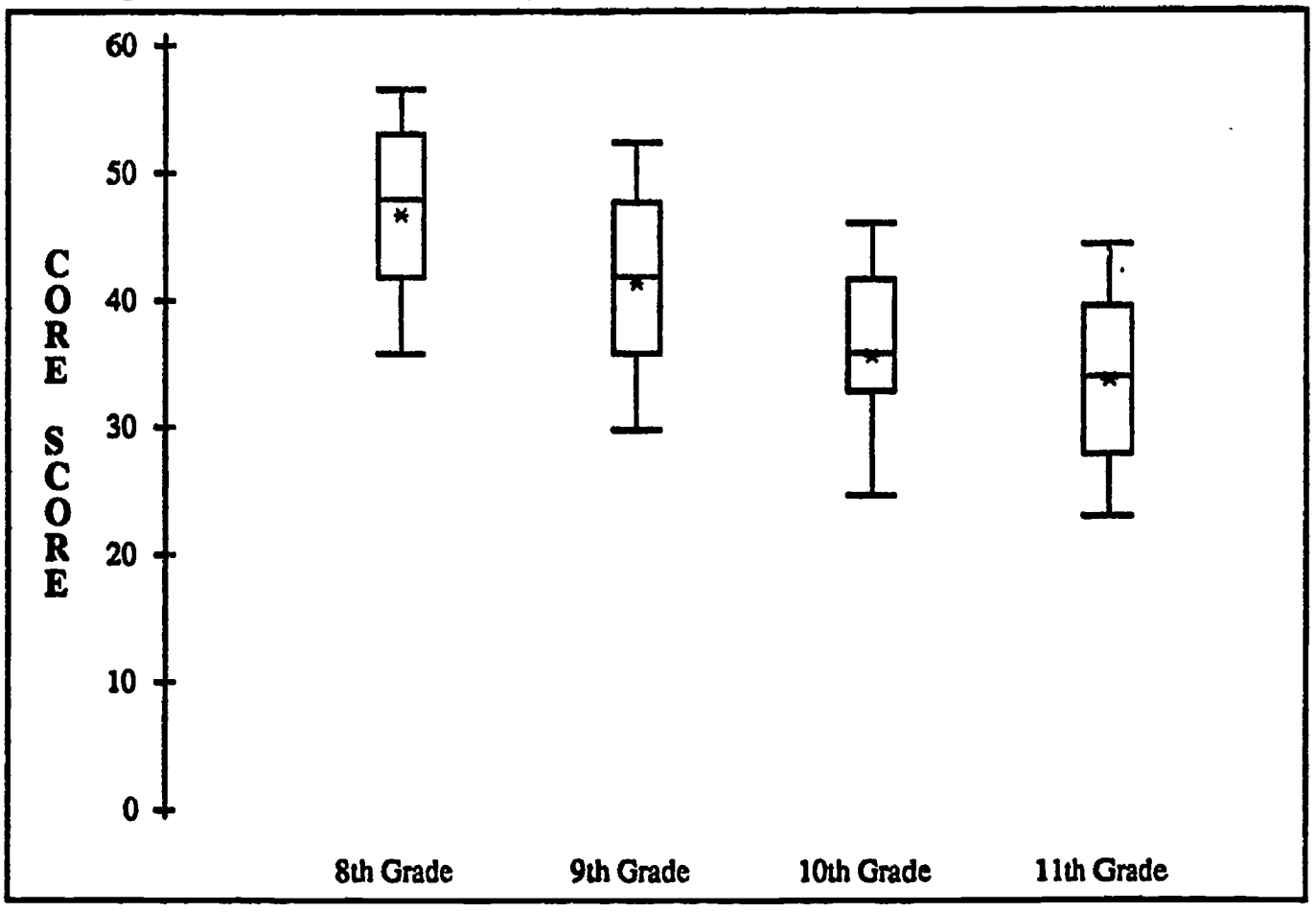


Table 3 shows the yield and effective yield indices for 1986 through 1989. Both indices have increased slightly during the three year period.

Table 3

Algebra I Yield and Effective Yield Indices for 1986-1989

	1986	1987	1988	1989
Yield	40.3	42.6	43.2	45.6
Effective Yield	34.6	36.8	38.1	40.8

The 1986 through 1989 core performance, participation (percent of class), yield, and effective yield for all 139 school systems in the state are presented by region in Table 10 in the Appendix. Figures 17 through 24 in the Appendix graphically present the average 1989 core performance and participation rates for the school systems, by region. Comparisons among school systems should always be sensitive to the fact that the social and demographic factors which are strongly related to differences in achievement are not distributed evenly across the state. These factors influence the yield indices as well as performance. For example, school systems in high socio-economic areas should have both high participation and performance, resulting in high yield and effective yield indices. One appropriate comparison might be among school systems with similar socio-economic characteristics. Another would involve comparing yield and effective yield indices for a school system across time to look for changes in participation and performance.

Anticipated Final Grades and Scores on the Core Test

Algebra I teachers were asked to record each student's anticipated final grade on each answer sheet after the test was administered. Final grades were recorded for 59,406 of 60,183 Algebra I students. Table 4 gives the average score for various grade groups on the core test and the percentages of students who were to receive the various grades for 1987 through 1989. A consistent difference of about 5 raw score points exists between score averages for different anticipated final grades. This pattern is an indication of test validity in that the results parallel the grading practices of teachers. The average for 'C' students was similar to the statewide average in all three years, placing these students in the middle of the score distribution.

Table 5 compares the average scores by anticipated grades between eighth and ninth-grade students for 1987, 1988, and 1989. Average scores for the select group of eighth-grade students have been higher than those for ninth-grade students at each anticipated final grade in each year. For example, the average score for ninth-grade students receiving a 'C' was similar to the average score for eighth-grade students receiving a 'D' for all years. The difference between average scores for eighth and ninth graders within most anticipated final grade groups has decreased each year. On average, ninth-grade students receiving each final grade scored between 3.4 and 5.2 points lower than eighth-grade students receiving the same grade in 1986. In 1987, the difference between ninth and eighth graders was between 2.7 and 4.0 score points for each letter grade and in 1988 the difference was between 2.6 and 3.6 score points. And, in 1989, the difference between ninth and eighth graders was between 2.1 and 3.2 score points for each letter grade. Greater proportions of students received 'A's or 'B's in the eighth grade than in the ninth grade and greater proportions of ninth-grade students received 'D's or 'F's than eighth-grade students.

Box and whisker plots for the score distributions for each letter grade are displayed in Figure 6. The plot illustrates the spread of score points within letter grades and overlap in distributions across letter grades. For example, while the typical 'F' student scored well below the typical 'D' student, 10 percent of 'F' students received an above average core score.

Table 4

Average 60-Item Core Scores by Anticipated Final Grade and Percentage of Students Receiving Each Grade*: Algebra I End-of-Course Test: 1987-1989

Grades	1987		1988		1989	
	Average Scores	Percentages	Average Scores	Percentages	Average Scores	Percentages
A	48.5	12.8	48.8	11.9	49.7	12.5
B	43.9	24.2	44.0	23.8	44.5	23.8
C	39.2	27.0	39.4	27.5	39.9	27.2
D	34.8	20.7	35.2	21.2	35.5	21.2
F	29.1	15.4	29.4	15.5	30.0	15.3

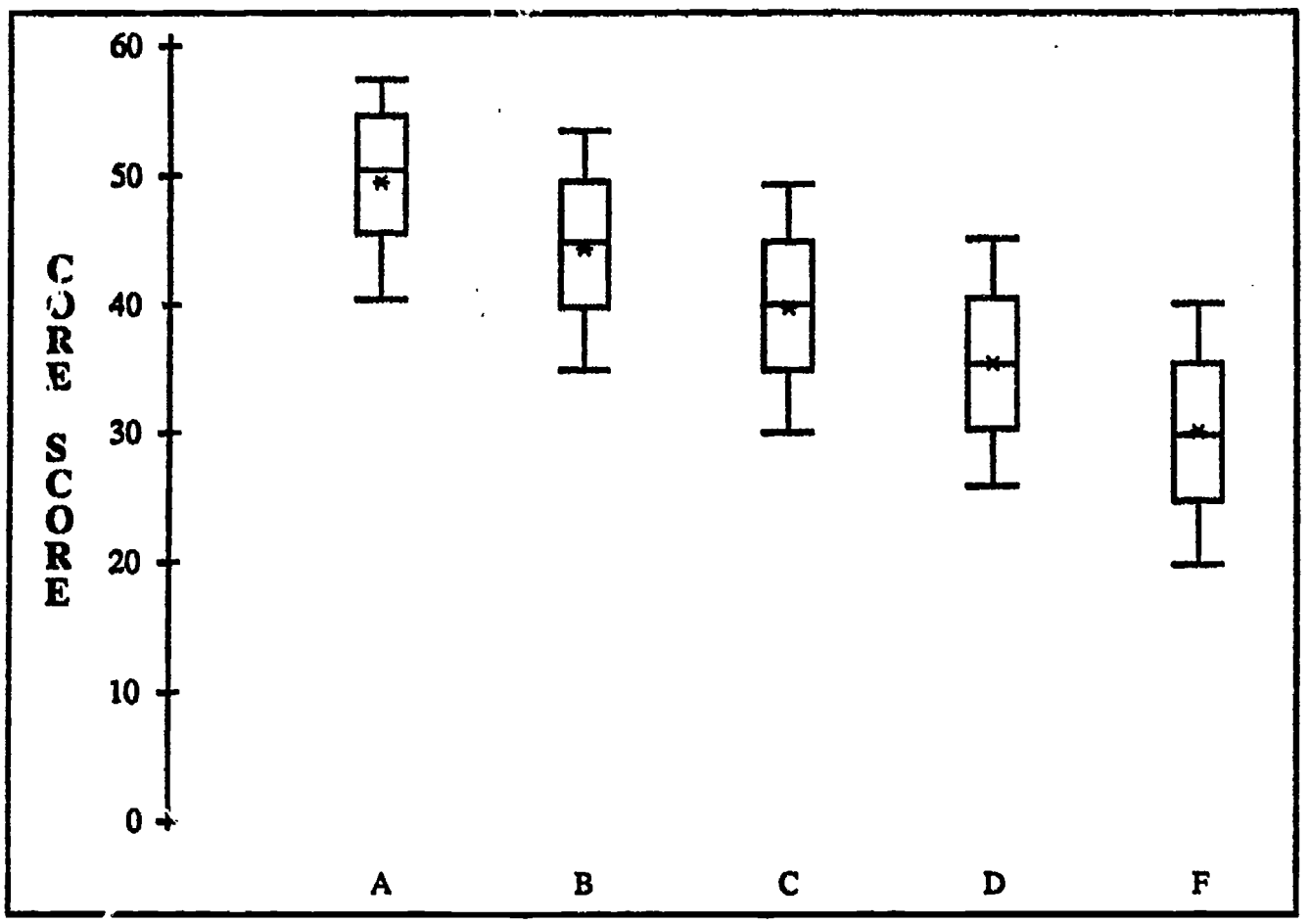
Table 5

Average 60-Item Core Scores by Anticipated Final Grade and Percentage of Students Receiving Each Grade within Eighth and Ninth Grade: Algebra I End-of-Course Test: 1987-1989

Grades	1987				1988				1989			
	Average Scores		Percentages		Average Scores		Percentages		Average Scores		Percentages	
	Grade 8	Grade 9	Grade 8	Grade 9	Grade 8	Grade 9	Grade 8	Grade 9	Grade 8	Grade 9	Grade 8	Grade 9
A	51.1	48.3	26.0	14.7	51.2	48.6	25.4	13.3	51.9	49.8	26.3	13.9
B	46.7	44.0	37.7	27.1	47.0	44.2	37.1	26.3	47.8	45.0	37.5	26.5
C	42.8	39.9	23.6	28.1	42.9	40.3	24.4	28.5	44.1	40.9	23.4	29.2
D	39.2	35.9	9.4	18.3	39.6	36.6	9.5	19.2	39.9	37.3	9.8	18.2
F	34.2	30.2	3.3	11.8	34.4	30.8	3.6	12.8	34.5	31.6	3.1	12.2

* 1987 N=53,838 1988 N=58,302 1989 N=59,406

Figure 6. Distributions of Algebra I Core Scores by Anticipated Final Grade -- 1989



Average Performance on the Curriculum Test

Table 6 shows average performance on the 12 goals as measured by 234 items assessed in 1989, for all Algebra I students in the State and by sex, ethnic group, parental education level, and grade in school. Performance on most objectives can be reported by combining average performance on the 235 items measured in 1988 and the 234 items measured in 1989 (see Table 7). Average scores for goals reported in Table 7 include both the 1988 and 1989 objectives for which there were at least four items. Since they are based on almost twice as many test items, goal scores based on the combined data are better estimates of student achievement than those based on only one year of data. Objective scores yield important information about performance within specific areas in the curriculum. The average percentage correct of all 469 items measured in 1988 and 1989 was 65.5.

The Algebra I goals and objectives are cumulative and sequential and therefore increase in difficulty and complexity from Goal 1 through Goal 12. In general, average student performance in 1988 and 1989 on the goals reflects this pattern with higher average scores occurring on the early goals and lower average scores occurring on the later goals.

Overall goal performance was highest in Goals 1 through 5 (70 to more than 80 percent correct). Performance on the objectives within these goals was generally high. Within Goal 4, student achievement was the lowest on two objectives which are important to more advanced mathematics: Objective 4.6, "Graph a linear equation in two variables" and Objective 4.7, " Graph a line given its slope and y-intercept."

Average performance for Goal 6 was 66.2, with the average percent correct for most objectives ranging in the 50s to 80s. The exception was in the complex problem solving Objective 6.12, for which the average percent correct was only 26.6. Goal 9, "Perform operations with polynomials", was rated as basic to the Algebra I curriculum by more teachers than any other goal in a statewide survey of Algebra I teachers. Overall, the average percent correct for this goal was 67.0. The highest average percent correct was 82.7 for Objective 9.5, "Multiply a polynomial by a monomial", and the lowest was 42.6 for Objective 9.14, "Square a binomial without using long multiplication."

Two difficult areas to teach are contained in Goal 7, "Solve linear inequalities", and Goal 11, "Perform operations with algebraic fractions". Overall percent correct scores for these goals were 54.2 and 50.5, respectively. Performance was quite low for objectives which required students to find a common denominator: Objective 11.7, "Add and subtract algebraic fractions" (30.0 percent correct), and Objective 11.9, "Solve fractional equations" (37.3 percent correct). Performance was also low for Objective 11.8, "Change a mixed expression to an algebraic fraction and a fraction to a mixed expression" (37.0 percent correct).

Goal 8 involves solving systems of linear equations. Of the objectives reported, student performance was weakest on Objective 8.3, "Write the equation of a line given the slope and one point on the line, or two points on the line" (32.5 percent correct), and strongest on two objectives in which they solved open sentences in two variables (52.6 percent correct), or used the substitution method to solve pairs of linear equations (56.6 percent correct). Average performance on Goal 10, "Solve quadratic equations", was 44.6 percent correct. The very low performance on Goal 12 (37.2 percent correct) may be due to the fact that it is taught at the very end of the year and some teachers covered the topics while others did not.

Statewide performance across all Algebra I goals and objectives shows areas of strength and areas in which improvement is needed. As schools and school systems examine their own performance on these goals and objectives, they can identify patterns of strengths and weaknesses relative to statewide performance.

TABLE 6

1989 Summary Results for Algebra I: 60-Item Core Test and 235-Item Curriculum Test

STATE REPORT

GOALS

GOAL 1: USE THE LANGUAGE OF ALGEBRA
GOAL 2: USE THE STRUCTURAL PROPERTIES OF NUMBER SYSTEMS
GOAL 3: PERFORM OPERATIONS WITH RATIONAL NUMBERS
GOAL 4: LOCATE NUMBERS ON NUMBER LINE OR COORDINATE PLANE
GOAL 5: PERFORM OPERATIONS WITH REAL NUMBERS
GOAL 6: SOLVE LINEAR EQUATIONS
GOAL 7: SOLVE LINEAR INEQUALITIES
GOAL 8: UNDERSTAND AND SOLVE SYSTEMS OF LINEAR EQUATIONS
GOAL 9: PERFORM OPERATIONS WITH POLYNOMIALS
GOAL 10: SOLVE QUADRATIC EQUATIONS
GOAL 11: PERFORM OPERATIONS WITH ALGEBRAIC FRACTIONS
GOAL 12: SIMPLIFY EXPRESSIONS WHICH CONTAIN RADICALS

	NUMBER TESTED	GOAL 1	GOAL 2	GOAL 3	GOAL 4	GOAL 5	GOAL 6	GOAL 7	GOAL 8	GOAL 9	GOAL 10	GOAL 11	GOAL 12	AVG CORE	PCT CORE	AVG ALL ITEMS	PCT ALL ITEMS
NUMBER OF ITEMS		15	17	6	15	31	32	6	20	50	11	25	6	60	60	234	234
ALL STUDENTS TESTED																	
	60183	81.2	85.4	74.1	69.4	81.1	67.2	56.4	46.1	66.4	45.8	48.6	38.7	39.8	66.4	153.6	65.6
SEX																	
MALE	27908	80.8	85.1	74.6	70.9	81.3	67.6	55.8	45.6	65.4	46.6	48.1	38.6	39.8	66.3	153.1	65.4
FEMALE	32036	81.7	85.8	73.7	68.1	81.1	66.8	57.0	46.7	67.4	45.1	49.0	38.8	39.9	66.6	154.0	65.8
PARENTAL EDUCATION																	
LESS THAN 8TH	529	77.4	80.3	68.7	64.6	76.8	61.2	51.2	39.3	61.6	39.6	43.0	34.3	36.9	61.6	141.6	60.5
8TH TO 12TH	5068	76.9	81.2	67.8	63.6	77.5	61.2	48.5	40.1	60.6	39.6	42.5	31.7	36.6	60.9	140.7	60.1
HIGH SCHOOL	16356	78.8	83.0	71.0	66.1	79.0	63.6	52.7	42.1	62.8	41.7	45.0	34.8	38.0	63.3	145.9	62.3
MORE THAN 12TH	37409	83.1	87.2	76.5	71.8	82.7	69.8	59.4	48.9	69.0	48.6	51.2	41.5	41.2	68.7	159.1	68.0

NOTE: THE NUMBER OF ITEMS IN EACH GOAL AREA IS DIRECTLY PROPORTIONAL TO THE NUMBER OF OBJECTIVES FOR THE GOAL. FIVE FORMS OF A 95-ITEM TEST WERE ADMINISTERED IN EVERY CLASSROOM. SIXTY OF THE 95 ITEMS WERE COMMON ACROSS THE FIVE FORMS (CORE). THE REMAINING 35 ITEMS VARIED BY FORM, SO THAT 235 ITEMS WERE MEASURED IN EVERY CLASSROOM. GOAL AREAS INCLUDE BOTH CORE AND VARIABLE ITEMS.

TABLE 6, cont'd

STATE REPORT

GOALS

GOAL 1: USE THE LANGUAGE OF ALGEBRA
GOAL 2: USE THE STRUCTURAL PROPERTIES OF NUMBER SYSTEMS
GOAL 3: PERFORM OPERATIONS WITH RATIONAL NUMBERS
GOAL 4: LOCATE NUMBERS ON NUMBER LINE OR COORDINATE PLANE
GOAL 5: PERFORM OPERATIONS WITH REAL NUMBERS
GOAL 6: SOLVE LINEAR EQUATIONS
GOAL 7: SOLVE LINEAR INEQUALITIES
GOAL 8: UNDERSTAND AND SOLVE SYSTEMS OF LINEAR EQUATIONS
GOAL 9: PERFORM OPERATIONS WITH POLYNOMIALS
GOAL 10: SOLVE QUADRATIC EQUATIONS
GOAL 11: PERFORM OPERATIONS WITH ALGEBRAIC FRACTIONS
GOAL 12: SIMPLIFY EXPRESSIONS WHICH CONTAIN RADICALS

	NUMBER TESTED	GOAL 1	GOAL 2	GOAL 3	GOAL 4	GOAL 5	GOAL 6	GOAL 7	GOAL 8	GOAL 9	GOAL 10	GOAL 11	GOAL 12	AVG CORE	PCT CORE	AVG ALL ITEMS	PCT ALL ITEMS
NUMBER OF ITEMS		15	17	6	15	31	32	6	20	50	11	25	6	60	60	234	234
GRADE IN SCHOOL																	
EIGHT	10700	89.7	94.0	85.0	79.5	88.5	79.6	72.2	60.2	80.[illegible]	61.3	63.7	49.4	47.0	78.3	181.4	77.5
NINE	24495	83.9	88.0	77.1	72.3	83.1	70.3	60.5	49.6	69.7	[illegible]	51.1	41.6	41.5	69.1	160.2	68.5
TEN	17992	76.0	80.2	67.4	63.2	76.9	59.7	46.3	37.3	58.0	37.1	40.2	31.5	35.6	59.4	136.7	58.4
ELEVEN	5282	72.2	76.2	63.4	59.0	73.6	56.1	43.5	34.9	55.0	35.8	37.9	29.7	33.8	56.4	129.5	55.3
OTHER	1714	74.4	77.7	67.2	62.1	75.6	58.4	45.5	36.5	58.0	38.7	39.8	34.2	35.2	58.7	135.2	57.8
ETHNIC GROUP																	
AMER. INDIAN	807	77.3	81.2	65.4	62.0	77.2	62.3	50.9	39.7	59.8	39.0	43.1	30.0	36.9	61.5	140.2	59.9
BLACK	15666	75.7	79.9	67.5	60.4	76.7	60.0	47.4	39.4	60.5	39.1	41.9	32.6	36.4	60.6	138.7	59.3
WHITE	42310	83.3	87.5	76.6	72.8	82.8	69.8	59.7	48.5	68.6	48.2	51.0	40.9	41.1	68.5	159.0	67.9
OTHER	1090	84.7	88.8	79.1	73.4	83.7	72.7	63.0	56.2	74.0	55.0	57.2	50.2	43.5	72.5	168.2	71.9

NOTE: THE NUMBER OF ITEMS IN EACH GOAL AREA IS DIRECTLY PROPORTIONAL TO THE NUMBER OF OBJECTIVES FOR THE GOAL. FIVE FORMS OF A 95-ITEM TEST WERE ADMINISTERED IN EVERY CLASSROOM. SIXTY OF THE 95 ITEMS WERE COMMON ACROSS THE FIVE FORMS (CORE). THE REMAINING 35 ITEMS VARIED BY FORM, SO THAT 235 ITEMS WERE MEASURED IN EVERY CLASSROOM. GOAL AREAS INCLUDE BOTH CORE AND VARIABLE ITEMS.

TABLE 7

1989 Summary Results for Algebra I Goals and Objectives

		STATE
GOAL 1:	USE THE LANGUAGE OF ALGEBRA (32)	77.5
1.1:	SIMPLIFY NUMERICAL EXPRESSIONS (4)	83.8
1.2:	EVALUATE VARIABLE EXPRESSIONS (7)	74.4
1.3:	EVALUATE EXPONENTIAL EXPRESSIONS (6)	73.5
1.4:	USE 'ORDER OF OPERATIONS' TO EVALUATE EXPRESSIONS (5)	79.8
1.5:	EVALUATE FORMULAS WHEN THE REPLACEMENT VALUES ARE GIVEN (6)	71.3
1.6:	CONVERT WORD PHRASES INTO SYMBOLS (4)	89.5
GOAL 2:	USE THE STRUCTURAL PROPERTIES OF NUMBER SYSTEMS (39)	81.4
2.1:	USE THE COMMUTATIVE PROPERTY OF ADDITION TO SIMPLIFY EXPRESSIONS OR COMPUTATIONAL PROCESSES WITH REAL NUMBERS (5)	88.6
2.2:	USE THE ASSOCIATIVE PROPERTY OF ADDITION TO SIMPLIFY EXPRESSIONS OR COMPUTATIONAL PROCESSES WITH REAL NUMBERS (8)	69.7
2.3:	USE THE DISTRIBUTIVE PROPERTY OF MULTIPLICATION OVER ADDITION TO SIMPLIFY EXPRESSIONS OR COMPUTATIONAL PROCESSES WITH REAL NUMBERS (5)	87.8
2.4:	USE THE RECIPROCAL, OR MULTIPLICATIVE INVERSE, OF A NUMBER TO SIMPLIFY EXPRESSIONS OR COMPUTATIONAL PROCESSES WITH REAL NUMBERS (5)	73.1
2.5:	USE THE COMMUTATIVE PROPERTY OF MULTIPLICATION TO SIMPLIFY EXPRESSIONS OR COMPUTATIONAL PROCESSES WITH REAL NUMBERS (3)	***
2.6:	USE THE ASSOCIATIVE PROPERTY OF MULTIPLICATION TO SIMPLIFY EXPRESSIONS OR COMPUTATIONAL PROCESSES WITH REAL NUMBERS (6)	85.4
2.7:	USE THE DISTRIBUTIVE PROPERTY TO SIMPLIFY EXPRESSIONS (7)	83.6
GOAL 3:	PERFORM OPERATIONS WITH RATIONAL NUMBERS (13)	74.9
3.1:	USE < OR > TO COMPARE TWO RATIONAL NUMBERS (5)	76.7
3.2:	EXPRESS RATIONAL NUMBERS IN FRACTION OR DECIMAL FORM (8)	73.8
GOAL 4:	LOCATE NUMBERS ON NUMBER LINE OR COORDINATE PLANE (34)	71.0
4.1:	GRAPH SETS OF REAL NUMBERS ON THE NUMBER LINE (7)	95.1
4.2:	USE THE NUMBER LINE TO ADD REAL NUMBERS (5)	72.1
4.3:	GRAPH ORDERED PAIRS OF NUMBERS ON THE COORDINATE PLANE (5)	82.5
4.4:	GRAPH A RELATION ON THE COORDINATE PLANE (6)	74.4
4.6:	GRAPH A LINEAR EQUATION IN TWO VARIABLES (5)	49.0
4.7:	GRAPH A LINE GIVEN ITS SLOPE AND Y-INTERCEPT (6)	47.4

NOTE: THE NUMBER OF ITEMS IN EACH GOAL AREA IS DIRECTLY PROPORTIONAL TO THE NUMBER OF OBJECTIVES FOR THE GOAL. THESE RESULTS ARE BASED ON AVERAGE PERFORMANCE ON 235 ITEMS MEASURED IN 1988 AND 234 ITEMS MEASURED IN 1989. EACH YEAR FIVE FORMS OF THE ALGEBRA I TEST ARE ADMINISTERED IN EVERY CLASSROOM. SIXTY ITEMS (THE CORE) ARE COMMON ACROSS THE FIVE FORMS.

TABLE 7, cont'd

GOAL 5:	PERFORM OPERATIONS WITH REAL NUMBERS (62)	78.9
5.1:	DETERMINE THE OPPOSITE, OR ADDITIVE INVERSE, OF A NUMBER (8)	77.6
5.2:	FIND THE ABSOLUTE VALUE OF A NUMBER (7)	74.5
5.3:	USE < OR > TO COMPARE TWO NUMBERS (4)	77.0
5.4:	ADD REAL NUMBERS (3)	***
5.5:	SUBTRACT REAL NUMBERS (5)	67.9
5.6:	MULTIPLY REAL NUMBERS (4)	84.9
5.7:	DIVIDE REAL NUMBERS (6)	88.0
5.8:	DISTINGUISH BETWEEN RATIONAL AND IRRATIONAL NUMBERS (6)	70.4
5.9:	FIND THE SQUARE ROOT OF A NUMBER WHICH IS A PERFECT SQUARE (6)	89.1
5.10:	USE A CALCULATOR, TABLE OF SQUARE ROOTS, OR AN ALGORITHM TO FIND A DECIMAL APPROXIMATION FOR THE SQUARE ROOT OF A REAL NUMBER (6)	85.7
5.11:	FIND THE UNION AND INTERSECTION OF TWO SETS OF NUMBERS (7)	63.9
GOAL 6:	SOLVE LINEAR EQUATIONS (63)	66.2
6.1:	FIND THE SOLUTION SET OF AN OPEN SENTENCE WHEN REPLACEMENT VALUES ARE GIVEN FOR THE VARIABLE (6)	72.6
6.2:	SOLVE A SIMPLE EQUATION BY USING THE ADDITION PROPERTY OF EQUALITY (7)	81.0
6.3:	SOLVE A SIMPLE EQUATION BY USING THE SUBTRACTION PROPERTY OF EQUALITY (4)	77.9
6.4:	SOLVE A SIMPLE EQUATION BY USING THE MULTIPLICATION PROPERTY OF EQUALITY (6)	77.2
6.5:	SOLVE A SIMPLE EQUATION BY USING THE DIVISION PROPERTY OF EQUALITY (5)	71.9
6.6:	SOLVE AN EQUATION BY USING MORE THAN ONE PROPERTY OF EQUALITY (5)	68.2
6.7:	SOLVE AN EQUATION WHICH CONTAINS SIMILAR TERMS (4)	80.4
6.8:	SOLVE AN EQUATION WHICH HAS THE VARIABLE IN BOTH MEMBERS (5)	58.5
6.9:	SOLVE 'AGE,' 'COIN,' AND 'INTEGER' PROBLEMS (5)	52.8
6.10:	SOLVE AN EQUATION IN WHICH THE NUMERICAL COEFFICIENT IS A FRACTION (6)	56.9
6.11:	SOLVE PROBLEMS INVOLVING PERCENTS (6)	60.7
6.12:	SOLVE 'PERCENT-MIXTURE,' 'INVESTMENT,' 'UNIFORM MOTION,' AND 'RATE-OF-WORK' PROBLEMS (4)	26.6
GOAL 7:	SOLVE LINEAR INEQUALITIES (10)	54.2
7.1:	FIND THE SOLUTION SET FOR A LINEAR INEQUALITY WHEN REPLACEMENT VALUES ARE GIVEN FOR THE VARIABLES (4)	60.2
7.2:	SOLVE A LINEAR INEQUALITY BY USING TRANSFORMATIONS (6)	50.2

NOTE: THE NUMBER OF ITEMS IN EACH GOAL AREA IS DIRECTLY PROPORTIONAL TO THE NUMBER OF OBJECTIVES FOR THE GOAL. THESE RESULTS ARE BASED ON AVERAGE PERFORMANCE ON 235 ITEMS MEASURED IN 1988 AND 234 ITEMS MEASURED IN 1989. EACH YEAR FIVE FORMS OF THE ALGEBRA I TEST ARE ADMINISTERED IN EVERY CLASSROOM. SIXTY ITEMS (THE CORE) ARE COMMON ACROSS THE FIVE FORMS.

TABLE 7, cont'd

GOAL 8:	UNDERSTAND AND SOLVE SYSTEMS OF LINEAR EQUATIONS (42)	47.1
8.1:	FIND THE SLOPE OF A NON-VERTICAL LINE GIVEN THE GRAPH OF A LINE, OR AN EQUATION OF THE LINE, OR TWO POINTS ON THE LINE (5)	43.5
8.2:	WRITE THE SLOPE-INTERCEPT FORM OF AN EQUATION OF A LINE (5)	45.8
8.3:	WRITE THE EQUATION OF A LINE GIVEN THE SLOPE AND ONE POINT ON THE LINE, OR TWO POINTS ON THE LINE (7)	32.5
8.4:	FIND THE SOLUTION SET OF OPEN SENTENCES IN TWO VARIABLES WHEN GIVEN REPLACEMENT SETS FOR THE VARIABLES (7)	52.6
8.5:	USE A GRAPH TO FIND THE SOLUTION OF A PAIR OF LINEAR EQUATIONS IN TWO VARIABLES (3)	***
8.6:	USE THE SUBSTITUTION METHOD TO FIND THE SOLUTION OF A PAIR OF LINEAR EQUATIONS IN TWO VARIABLES (6)	56.6
8.7:	USE THE ADDITION-OR-SUBTRACTION METHOD TO FIND THE SOLUTION OF A PAIR OF LINEAR EQUATIONS IN TWO VARIABLES (3)	***
8.8:	USE MULTIPLICATION WITH THE ADDITION-OR-SUBTRACTION METHOD TO SOLVE SYSTEMS OF LINEAR EQUATIONS (6)	45.6
GOAL 9:	PERFORM OPERATIONS WITH POLYNOMIALS (96)	67.0
9.1:	ADD POLYNOMIALS (5)	64.4
9.2:	SUBTRACT POLYNOMIALS (6)	53.7
9.3:	MULTIPLY MONOMIALS (5)	68.6
9.4:	FIND AN INDICATED POWER OF A MONOMIAL (5)	65.5
9.5:	MULTIPLY A POLYNOMIAL BY A MONOMIAL (5)	82.7
9.6:	MULTIPLY TWO POLYNOMIALS (3)	***
9.7:	FACTOR A MONOMIAL (6)	71.1
9.8:	DIVIDE TWO MONOMIALS (7)	69.4
9.9:	DIVIDE A POLYNOMIAL BY A MONOMIAL (5)	76.5
9.10:	DIVIDE A POLYNOMIAL BY A BINOMIAL (6)	56.5
9.11:	FIND A COMMON MONOMIAL FACTOR IN A POLYNOMIAL (7)	66.5
9.12:	FIND THE PRODUCT OF THE SUM AND DIFFERENCE OF TWO BINOMIALS (7)	72.7
9.13:	FACTOR THE DIFFERENCE OF TWO SQUARES (4)	61.0
9.14:	SQUARE A BINOMIAL WITHOUT USING LONG MULTIPLICATION (4)	42.6
9.15:	FACTOR A PERFECT SQUARE TRINOMIAL (5)	69.5
9.16:	FIND THE PRODUCT OF TWO BINOMIALS (5)	73.5
9.17:	FACTOR A QUADRATIC TRINOMIAL WHEN THE COEFFICIENT OF THE QUADRATIC TERM IS ONE (6)	74.6
9.18:	FACTOR A QUADRATIC TRINOMIAL WHEN THE COEFFICIENT OF THE QUADRATIC TERM IS NOT ONE (5)	63.9

NOTE: THE NUMBER OF ITEMS IN EACH GOAL AREA IS DIRECTLY PROPORTIONAL TO THE NUMBER OF OBJECTIVES FOR THE GOAL. THESE RESULTS ARE BASED ON AVERAGE PERFORMANCE ON 235 ITEMS MEASURED IN 1988 AND 234 ITEMS MEASURED IN 1989. EACH YEAR FIVE FORMS OF THE ALGEBRA I TEST ARE ADMINISTERED IN EVERY CLASSROOM. SIXTY ITEMS (THE CORE) ARE COMMON ACROSS THE FIVE FORMS.

TABLE 7, cont'd

	STATE
GOAL 10: SOLVE QUADRATIC EQUATIONS (19)	44.6
10.1: SOLVE A SECOND DEGREE EQUATION WHEN ONE MEMBER IS IN FACTORED FORM AND THE OTHER MEMBER IS ZERO (5)	50.0
10.2: SOLVE A SECOND DEGREE EQUATION BY FACTORING (5)	40.3
10.3: USE FACTORING TO SOLVE A VERBAL PROBLEM (4)	46.3
10.4: SOLVE A QUADRATIC EQUATION THAT IS IN THE FORM PERFECT SQUARE = CONSTANT (5)	42.3
GOAL 11: PERFORM OPERATIONS WITH ALGEBRAIC FRACTIONS (48)	50.5
11.1: WRITE AN ALGEBRAIC FRACTION IN ITS SIMPLEST FORM (6)	60.5
11.2: SOLVE PROPORTIONS (5)	75.2
11.3: USE RATIOS AND PROPORTIONS TO SOLVE PROBLEMS (4)	56.9
11.4: MULTIPLY ALGEBRAIC FRACTIONS (5)	59.0
11.5: DIVIDE ALGEBRAIC FRACTIONS (6)	52.5
11.6: SIMPLIFY ALGEBRAIC EXPRESSIONS INVOLVING MULTIPLICATION AND DIVISION OF ALGEBRAIC FRACTIONS (5)	53.0
11.7: ADD AND SUBTRACT ALGEBRAIC FRACTIONS (7)	30.0
11.8: CHANGE A MIXED EXPRESSION TO AN ALGEBRAIC FRACTION AND A FRACTION TO A MIXED EXPRESSION (6)	37.0
11.9: SOLVE FRACTIONAL EQUATIONS (4)	37.3
GOAL 12: SIMPLIFY EXPRESSIONS WHICH CONTAIN RADICALS (11)	37.2
12.1: SIMPLIFY PRODUCTS AND QUOTIENTS OF RADICAL EXPRESSIONS (4)	42.4
12.2: SIMPLIFY SUMS AND DIFFERENCES OF RADICAL EXPRESSIONS (7)	34.1
PERCENT CORRECT ALL ITEMS (469)	65.5
AVERAGE SCORE ALL ITEMS (469)	307.4
NUMBER OF STUDENTS TESTED (1988)	59723
NUMBER OF STUDENTS TESTED (1989)	60183

NOTE: THE NUMBER OF ITEMS IN EACH GOAL AREA IS DIRECTLY PROPORTIONAL TO THE NUMBER OF OBJECTIVES FOR THE GOAL. THESE RESULTS ARE BASED ON AVERAGE PERFORMANCE ON 235 ITEMS MEASURED IN 1988 AND 234 ITEMS MEASURED IN 1989. EACH YEAR FIVE FORMS OF THE ALGEBRA I TEST ARE ADMINISTERED IN EVERY CLASSROOM. SIXTY ITEMS (THE CORE) ARE COMMON ACROSS THE FIVE FORMS.

APPENDIX

Algebra I Core and Goal Performance in Educational Regions and Public School Systems

Table 8 presents average performance on the 60-item core test, the 235-item curriculum test, and the 12 goals of Algebra I for the eight educational regions. Public school system average core and goal performance are given in Table 9. School systems are arranged by educational region.

Algebra I Box and Whisker Plots of Core Scores for Education Regions and Public School Systems

Figure 7 displays the distributions of core scores for eight educational regions using box and whisker plots. Public school system box and whisker plots are presented in Figures 8 through 15. See the interpretive legend in Figure 1 on page 4.

Algebra I Core Performance, Participation Rates, Yield, and Effective Yield for Public School Systems: 1986-1988

Table 10 presents participation rates, yield, effective yield, and performance on the equivalent 60-item core tests administered in all three years for the public school systems. School systems are arranged by educational region. Comparisons among school systems should always be sensitive to the fact that the social and demographic factors which are strongly related to differences in achievement are not distributed evenly across the state. These factors influence the yield indices as well as performance. For example, school systems in high socio-economic areas should have both high participation and performance, resulting in high yield and effective yield indices. One appropriate comparison might be among school systems with similar socio-economic characteristics. Another would involve comparing yield and effective yield indices for a school system across time to look for changes in participation and performance.

Graphs of Algebra I Core Scores and Participation Rates in Public School Systems

Figures 16 though 24 graphically present Algebra I core scores and participation rates (percent of class) for educational regions and public school systems. For each school system, the length of the bars representing the average core scores and class participation rates can be compared to the state averages for these measures (state averages are indicated by the vertical arrows). School systems for which both bars extend beyond the state averages have both higher than average participation in Algebra I, and above average performance on the Algebra I End-of-Course Test.

Characteristics of the Algebra I Students in Public School Systems

Select characteristics of all students in public school systems and all students taking Algebra I are listed in Table 11. The percent of a class is an estimate of the percent of an entire cohort or class of students who will eventually take Algebra I in their public school career. As shown in Table 1, in North Carolina it is estimated that 68.6 percent of a class of students will take Algebra I before they graduate from high school. Approximately 13.0 percent of the eighth-grade class took Algebra I in the 1988-89 school year. The percentages of eighth graders taking Algebra I vary among school systems: from 0 percent in 21 school systems to 20 percent or more in 22 school systems.

The ethnic distribution and parental education distribution within school systems and Algebra I classes also varies by school system. Statewide, black students and students with less educated parents appear to be underrepresented in Algebra I classes.

State Percentile Tables for 1986-1989

Tables 12-14 give summary statistics, the score distributions, and state percentiles for 1986, 1987, 1988 and 1989. The 1986 percentiles provide a baseline to which subsequent performance on the equivalent core tests can be compared.

TABLE 8

1989 Regional Summary Results for Algebra I: 60-Item Core Test and 235-Item Curriculum Test

STATE REPORT

GOALS

GOAL 1: USE THE LANGUAGE OF ALGEBRA
GOAL 2: USE THE STRUCTURAL PROPERTIES OF NUMBER SYSTEMS
GOAL 3: PERFORM OPERATIONS WITH RATIONAL NUMBERS
GOAL 4: LOCATE NUMBERS ON NUMBER LINE OR COORDINATE PLANE
GOAL 5: PERFORM OPERATIONS WITH REAL NUMBERS
GOAL 6: SOLVE LINEAR EQUATIONS
GOAL 7: SOLVE LINEAR INEQUALITIES
GOAL 8: UNDERSTAND AND SOLVE SYSTEMS OF LINEAR EQUATIONS
GOAL 9: PERFORM OPERATIONS WITH POLYNOMIALS
GOAL 10: SOLVE QUADRATIC EQUATIONS
GOAL 11: PERFORM OPERATIONS WITH ALGEBRAIC FRACTIONS
GOAL 12: SIMPLIFY EXPRESSIONS WHICH CONTAIN RADICALS

	NUMBER TESTED	GOAL 1	GOAL 2	GOAL 3	GOAL 4	GOAL 5	GOAL 6	GOAL 7	GOAL 8	GOAL 9	GOAL 10	GOAL 11	GOAL 12	AVG CORE	PCT CORE	AVG ALL ITEMS	PCT ALL ITEMS
NUMBER OF ITEMS		15	17	6	15	31	32	6	20	50	11	25	6	60	60	234	234
NORTHEAST	3336	81.5	85.3	72.9	68.3	80.9	66.0	53.6	45.3	66.2	45.1	48.8	39.9	39.4	65.7	152.5	65.2
SOUTHEAST	6981	80.3	84.0	72.8	66.6	80.0	65.3	54.1	44.5	64.8	43.2	46.8	37.0	39.1	65.1	149.6	63.9
CENTRAL	9432	83.4	88.2	77.9	73.1	83.7	70.3	62.0	50.8	71.1	49.8	52.3	46.3	41.9	69.9	162.4	69.4
SOUTH CENTRAL	7426	78.7	83.0	70.4	65.7	78.8	63.7	52.1	41.8	62.6	42.2	44.9	32.9	37.9	63.2	145.4	62.1
NORTH CENTRAL	11294	81.7	85.9	75.1	69.1	81.7	68.6	58.6	46.6	67.2	46.2	49.5	39.9	40.4	67.3	155.2	66.3
SOUTHWEST	10894	80.3	84.4	73.6	69.1	80.1	65.7	54.8	44.9	64.0	44.9	46.5	34.5	38.9	64.8	149.3	64.1
NORTHWEST	5792	82.3	86.3	74.0	71.4	82.1	68.3	55.9	46.8	68.4	46.8	49.9	39.3	40.5	67.6	156.4	66.8
WESTERN	5028	82.0	86.1	74.3	71.4	81.5	68.6	56.9	47.7	67.1	47.6	50.5	40.4	40.3	67.2	156.1	66.7

NOTE: THE NUMBER OF ITEMS IN EACH GOAL AREA IS DIRECTLY PROPORTIONAL TO THE NUMBER OF OBJECTIVES FOR THE GOAL. FIVE FORMS OF A 95-ITEM TEST WERE ADMINISTERED IN EVERY CLASSROOM. SIXTY OF THE 95 ITEMS WERE COMMON ACROSS THE FIVE FORMS (CORE). THE REMAINING 35 ITEMS VARIED BY FORM, SO THAT 235 ITEMS WERE MEASURED IN EVERY CLASSROOM. GOAL AREAS INCLUDE BOTH CORE AND VARIABLE ITEMS.

TABLE 9

1989 School System Summary Results for Algebra I: 60-Item Core Test and 235-Item Curriculum Test

REGION NORTHEAST

REGION REPORT

GOALS

GOAL 1: USE THE LANGUAGE OF ALGEBRA
GOAL 2: USE THE STRUCTURAL PROPERTIES OF NUMBER SYSTEMS
GOAL 3: PERFORM OPERATIONS WITH RATIONAL NUMBERS
GOAL 4: LOCATE NUMBERS ON NUMBER LINE OR COORDINATE PLANE
GOAL 5: PERFORM OPERATIONS WITH REAL NUMBERS
GOAL 6: SOLVE LINEAR EQUATIONS
GOAL 7: SOLVE LINEAR INEQUALITIES
GOAL 8: UNDERSTAND AND SOLVE SYSTEMS OF LINEAR EQUATIONS
GOAL 9: PERFORM OPERATIONS WITH POLYNOMIALS
GOAL 10: SOLVE QUADRATIC EQUATIONS
GOAL 11: PERFORM OPERATIONS WITH ALGEBRAIC FRACTIONS
GOAL 12: SIMPLIFY EXPRESSIONS WHICH CONTAIN RADICALS

	NUMBER TESTED	GOAL 1	GOAL 2	GOAL 3	GOAL 4	GOAL 5	GOAL 6	GOAL 7	GOAL 8	GOAL 9	GOAL 10	GOAL 11	GOAL 12	AVG CORE	PCT CORE	AVG ALL ITEMS	PCT ALL ITEMS
NUMBER OF ITEMS		15	17	6	15	31	32	6	20	50	11	25	6	60	60	234	234
BEAUFORT COUNTY	189	77.7	78.9	69.3	63.8	74.5	59.6	50.1	40.1	56.9	41.3	39.8	31.2	36.2	60.3	136.9	58.5
WASHINGTON CITY	215	79.1	83.0	73.4	70.5	80.1	64.5	57.4	44.3	62.8	45.1	46.3	39.9	38.1	63.5	149.1	63.7
BERTIE COUNTY	300	74.5	82.1	61.9	62.0	76.3	58.3	43.2	36.5	56.6	35.6	40.1	33.9	34.9	58.1	134.6	57.5
CAMDEN COUNTY	56	83.6	85.9	78.2	74.0	85.7	73.3	57.1	54.4	73.3	47.7	52.7	22.1	41.4	69.0	163.7	69.9
CHOWAN COUNTY	120	78.8	88.7	81.6	78.9	87.4	72.6	57.9	48.3	66.9	45.8	54.7	44.3	41.6	69.4	161.9	69.2
CURRITUCK COUNTY	109	90.3	92.4	84.6	78.0	89.1	76.5	67.4	56.0	78.4	50.9	60.1	52.1	44.6	74.3	176.3	75.3
DARE COUNTY	130	92.1	95.2	88.5	87.9	92.5	83.2	76.7	73.9	82.6	73.1	73.4	72.8	50.5	84.2	195.2	83.4
GATES COUNTY	76	81.7	88.4	70.6	74.5	80.6	67.9	51.3	47.8	71.9	40.1	54.8	41.9	40.1	66.9	158.6	67.8
HERTFORD COUNTY	220	74.2	79.4	64.9	56.5	75.6	57.5	46.5	33.4	56.8	36.1	39.3	32.6	34.5	57.4	132.5	56.6
HYDE COUNTY	35	75.8	79.8	77.8	64.1	73.6	60.0	49.0	40.7	49.6	28.0	39.[illegible]	26.3	35.4	59.0	131.7	56.3
MARTIN COUNTY	334	80.3	80.9	72.3	63.6	78.1	61.0	44.8	40.7	59.7	36.1	39.3	29.7	36.3	60.6	139.6	59.7
PASQUOTANK COUNTY	309	83.5	85.8	73.1	67.3	80.6	66.4	52.0	39.9	65.4	43.2	45.4	27.9	38.9	64.8	149.4	63.8
PERQUIMANS COUNTY	104	80.0	89.1	79.9	65.8	82.3	65.3	57.4	37.8	70.8	50.8	49.1	22.3	40.3	67.2	153.8	65.7
PITT COUNTY	929	85.9	89.6	75.9	72.5	84.8	71.5	59.0	53.1	74.3	52.1	56.4	52.0	42.8	71.4	167.0	71.4
TYRRELL COUNTY	28	91.2	93.4	92.7	81.4	90.1	72.8	76.4	61.7	85.6	66.3	61.1	58.0	46.9	78.2	184.3	78.8
WASHINGTON COUNTY	182	73.8	75.3	57.2	53.7	69.3	53.0	37.7	28.2	53.3	32.2	38.1	26.6	32.5	54.1	123.0	52.6

NOTE: THE NUMBER OF ITEMS IN EACH GOAL AREA IS DIRECTLY PROPORTIONAL TO THE NUMBER OF OBJECTIVES FOR THE GOAL. FIVE FORMS OF A 95-ITEM TEST WERE ADMINISTERED IN EVERY CLASSROOM. SIXTY OF THE 95 ITEMS WERE COMMON ACROSS THE FIVE FORMS (CORE). THE REMAINING 35 ITEMS VARIED BY FORM, SO THAT 235 ITEMS WERE MEASURED IN EVERY CLASSROOM. GOAL AREAS INCLUDE BOTH CORE AND VARIABLE ITEMS.

TABLE 9, cont'd

NORTH CAROLINA END-OF-COURSE TESTING PROGRAM

ALGEBRA I --- 1989

REGION SOUTHEAST

REGION REPORT

GOALS

GOAL 1: USE THE LANGUAGE OF ALGEBRA
GOAL 2: USE THE STRUCTURAL PROPERTIES OF NUMBER SYSTEMS
GOAL 3: PERFORM OPERATIONS WITH RATIONAL NUMBERS
GOAL 4: LOCATE NUMBERS ON NUMBER LINE OR COORDINATE PLANE
GOAL 5: PERFORM OPERATIONS WITH REAL NUMBERS
GOAL 6: SOLVE LINEAR EQUATIONS
GOAL 7: SOLVE LINEAR INEQUALITIES
GOAL 8: UNDERSTAND AND SOLVE SYSTEMS OF LINEAR EQUATIONS
GOAL 9: PERFORM OPERATIONS WITH POLYNOMIALS
GOAL 10: SOLVE QUADRATIC EQUATIONS
GOAL 11: PERFORM OPERATIONS WITH ALGEBRAIC FRACTIONS
GOAL 12: SIMPLIFY EXPRESSIONS WHICH CONTAIN RADICALS

	NUMBER TESTED	GOAL 1	GOAL 2	GOAL 3	GOAL 4	GOAL 5	GOAL 6	GOAL 7	GOAL 8	GOAL 9	GOAL 10	GOAL 11	GOAL 12	AVG CORE	PCT CORE	AVG ALL ITEMS	PCT ALL ITEMS
NUMBER OF ITEMS		15	17	6	15	31	32	6	20	50	11	25	6	60	60	234	234
BRUNSWICK COUNTY	492	81.7	84.9	71.8	66.5	79.4	64.5	57.5	43.0	62.9	39.2	42.5	34.1	39.0	64.9	146.7	62.7
CARTERET COUNTY	414	86.3	90.7	80.5	73.4	87.9	74.9	70.6	57.9	74.2	54.3	56.7	57.5	44.2	73.7	172.0	73.5
NEW BERN-CRAVEN	717	82.4	86.6	76.0	69.9	82.1	68.3	55.5	44.7	66.8	46.6	49.7	42.6	39.7	66.1	155.2	66.3
DUPLIN COUNTY	407	78.6	82.1	66.0	64.7	76.5	62.5	46.5	41.9	59.4	38.6	41.6	38.3	36.7	61.1	140.9	60.2
GREENE COUNTY	156	81.2	86.6	75.9	66.9	84.5	70.6	65.1	48.5	67.7	44.2	50.3	34.7	41.3	68.9	157.2	67.2
JONES COUNTY	105													38.8	64.7		
LENOIR COUNTY	378	80.6	82.7	71.9	65.9	79.9	61.0	48.3	40.1	64.0	39.5	46.[illegible]	23.7	38.4	64.0	144.8	61.9
KINSTON CITY	247	83.9	86.8	78.8	67.2	85.2	71.8	55.8	53.8	73.1	44.6	55.[illegible]	59.3	43.[illegible]	71.8	164.4	70.3
NEW HANOVER COUNT	1352	80.4	83.7	71.5	65.7	78.4	64.3	52.9	44.5	62.8	42.7	46.[illegible]	31.2	38.2	63.7	147.0	62.8
ONSLOW COUNTY	925	82.9	85.2	76.7	68.8	82.4	68.1	55.3	44.2	68.1	44.6	47.9	37.9	39.7	66.2	154.5	66.0
PAMLICO COUNTY	91	85.7	84.4	78.1	68.6	84.4	67.9	64.7	46.3	72.9	52.3	51.8	59.9	41.2	69.7	162.0	69.2
PENDER COUNTY	240	78.9	81.2	68.7	65.0	77.6	62.0	44.9	41.5	61.4	38.6	41.0	29.2	37.1	61.8	141.3	60.4
SAMPSON COUNTY	386	72.6	75.3	63.3	58.7	71.2	58.2	47.6	38.6	57.2	37.6	40.7	28.9	37.6	62.7	132.2	56.5
CLINTON CITY	117	86.1	87.5	79.1	74.4	86.3	71.7	57.2	51.9	71.6	49.7	54.2	46.7	43.3	72.1	164.8	70.4
WAYNE COUNTY	769	75.6	82.5	71.1	64.3	78.2	62.0	55.4	43.1	62.3	42.7	44.9	34.1	38.0	63.4	144.4	61.7
GOLDSBORO CITY	185	70.1	78.1	63.6	58.9	75.2	56.5	40.8	39.1	59.3	40.7	40.9	33.6	34.4	57.4	134.5	57.5

NOTE: THE NUMBER OF ITEMS IN EACH GOAL AREA IS DIRECTLY PROPORTIONAL TO THE NUMBER OF OBJECTIVES FOR THE GOAL. FIVE FORMS OF A 95-ITEM TEST WERE ADMINISTERED IN EVERY CLASSROOM. SIXTY OF THE 95 ITEMS WERE COMMON ACROSS THE FIVE FORMS (CORE). THE REMAINING 35 ITEMS VARIED BY FORM, SO THAT 235 ITEMS WERE MEASURED IN EVERY CLASSROOM. GOAL AREAS INCLUDE BOTH CORE AND VARIABLE ITEMS.

TABLE 9, cont'd

NORTH CAROLINA END-OF-COURSE TESTING PROGRAM

ALGEBRA I --- 1989

REGION CENTRAL

REGION REPORT

GOALS

GOAL 1: USE THE LANGUAGE OF ALGEBRA
GOAL 2: USE THE STRUCTURAL PROPERTIES OF NUMBER SYSTEMS
GOAL 3: PERFORM OPERATIONS WITH RATIONAL NUMBERS
GOAL 4: LOCATE NUMBERS ON NUMBER LINE OR COORDINATE PLANE
GOAL 5: PERFORM OPERATIONS WITH REAL NUMBERS
GOAL 6: SOLVE LINEAR EQUATIONS
GOAL 7: SOLVE LINEAR INEQUALITIES
GOAL 8: UNDERSTAND AND SOLVE SYSTEMS OF LINEAR EQUATIONS
GOAL 9: PERFORM OPERATIONS WITH POLYNOMIALS
GOAL 10: SOLVE QUADRATIC EQUATIONS
GOAL 11: PERFORM OPERATIONS WITH ALGEBRAIC FRACTIONS
GOAL 12: SIMPLIFY EXPRESSIONS WHICH CONTAIN RADICALS

	NUMBER TESTED	GOAL 1	GOAL 2	GOAL 3	GOAL 4	GOAL 5	GOAL 6	GOAL 7	GOAL 8	GOAL 9	GOAL 10	GOAL 11	GOAL 12	AVG CORE	PCT CORE	AVG ALL ITEMS	PCT ALL ITEMS
NUMBER OF ITEMS		15	17	6	15	31	32	6	20	50	11	25	6	60	60	234	234
DURHAM COUNTY	1144	85.0	88.1	82.4	76.8	84.5	71.9	64.8	53.4	67.4	47.4	50.6	38.6	42.0	70.0	161.8	69.2
DURHAM CITY	331	71.6	73.4	60.4	63.8	73.8	57.3	50.4	39.6	58.4	42.0	38.6	35.9	34.7	57.8	134.2	57.3
EDGECOMBE COUNTY	216	76.8	78.1	65.1	63.0	75.3	60.4	46.9	39.0	60.3	35.4	42.1	27.1	36.4	60.7	137.7	58.8
TARBORO CITY	141	84.4	91.8	81.7	72.6	85.6	74.0	68.2	57.3	75.0	56.8	56.1	49.0	43.2	72.0	170.5	72.9
FRANKLIN COUNTY	237	82.6	88.6	74.3	69.8	82.9	70.8	54.6	44.1	67.4	42.7	50.9	41.0	40.7	67.8	156.4	66.9
FRANKLINTON CITY	62	71.0	78.8	66.6	53.9	69.4	53.8	42.6	27.6	59.5	31.7	31.3	14.4	33.4	55.7	124.9	53.4
GRANVILLE COUNTY	416	75.2	83.1	69.0	66.0	78.4	63.1	55.8	41.0	59.8	36.9	38.7	28.1	36.9	61.5	140.8	60.2
HALIFAX COUNTY	242	73.0	78.2	58.6	51.7	69.8	53.0	33.1	32.5	55.3	34.3	35.5	22.8	34.0	56.7	124.2	53.1
ROANOKE RPDS CITY	132	84.2	90.7	74.7	72.7	82.9	72.5	65.1	47.5	71.5	50.2	50.6	49.6	41.8	69.7	162.6	69.5
WELDON CITY	45	61.6	68.1	51.9	53.8	65.9	45.7	25.9	28.4	44.5	33.5	31.9	33.3	28.7	47.8	110.2	47.1
JOHNSTON COUNTY	702	83.3	88.9	80.9	74.6	84.6	70.7	58.3	49.7	71.7	45.3	46.2	43.7	41.4	69.0	161.0	68.8
NASH COUNTY	604	83.0	85.9	74.0	66.4	79.1	65.6	56.5	45.0	65.4	45.9	49.7	33.9	39.7	66.1	151.6	64.8
ROCKY MOUNT CITY	236	87.7	91.9	80.1	73.2	85.3	73.1	64.8	56.1	74.2	48.8	57.1	49.0	43.3	72.2	169.2	72.3
NORTHAMPTON COUNT	198	80.0	86.4	68.3	57.6	78.2	63.6	53.9	43.5	62.2	38.3	39.0	26.1	38.2	63.6	142.6	60.9
VANCE COUNTY	281	78.5	84.8	71.9	66.5	82.0	66.2	55.6	40.8	64.0	40.0	44.0	24.6	38.4	64.0	147.5	63.0
WAKE COUNTY	3697	87.1	92.1	83.1	79.3	87.9	75.6	69.1	57.1	78.6	58.8	60.3	60.7	45.3	75.4	177.1	75.7
WARREN COUNTY	152	81.9	80.6	66.0	60.2	76.0	62.3	44.4	36.0	61.4	41.2	41.7	18.3	36.9	61.4	139.1	59.4
WILSON COUNTY	596	82.5	89.3	78.4	71.9	85.3	69.7	66.1	54.0	72.2	48.5	56.7	50.9	42.8	71.3	165.2	70.6

NOTE: THE NUMBER OF ITEMS IN EACH GOAL AREA IS DIRECTLY PROPORTIONAL TO THE NUMBER OF OBJECTIVES FOR THE GOAL. FIVE FORMS OF A 95-ITEM TEST WERE ADMINISTERED IN EVERY CLASSROOM. SIXTY OF THE 95 ITEMS WERE COMMON ACROSS THE FIVE FORMS (CORE). THE REMAINING 35 ITEMS VARIED BY FORM, SO THAT 235 ITEMS WERE MEASURED IN EVERY CLASSROOM. GOAL AREAS INCLUDE BOTH CORE AND VARIABLE ITEMS.

TABLE 9, cont'd

NORTH CAROLINA END-OF-COURSE TESTING PROGRAM

ALGEBRA I --- 1989

REGION SOUTH CENTRAL

REGION REPORT

GOALS

GOAL 1: USE THE LANGUAGE OF ALGEBRA
GOAL 2: USE THE STRUCTURAL PROPERTIES OF NUMBER SYSTEMS
GOAL 3: PERFORM OPERATIONS WITH RATIONAL NUMBERS
GOAL 4: LOCATE NUMBERS ON NUMBER LINE OR COORDINATE PLANE
GOAL 5: PERFORM OPERATIONS WITH REAL NUMBERS
GOAL 6: SOLVE LINEAR EQUATIONS
GOAL 7: SOLVE LINEAR INEQUALITIES
GOAL 8: UNDERSTAND AND SOLVE SYSTEMS OF LINEAR EQUATIONS
GOAL 9: PERFORM OPERATIONS WITH POLYNOMIALS
GOAL 10: SOLVE QUADRATIC EQUATIONS
GOAL 11: PERFORM OPERATIONS WITH ALGEBRAIC FRACTIONS
GOAL 12: SIMPLIFY EXPRESSIONS WHICH CONTAIN RADICALS

	NUMBER TESTED	GOAL 1	GOAL 2	GOAL 3	GOAL 4	GOAL 5	GOAL 6	GOAL 7	GOAL 8	GOAL 9	GOAL 10	GOAL 11	GOAL 12	AVG CORE	PCT CORE	AVG ALL ITEMS	PCT ALL ITEMS
NUMBER OF ITEMS		15	17	6	15	31	32	6	20	50	11	25	6	60	60	234	234
BLADEN COUNTY	341	72.1	80.6	63.6	61.0	78.2	58.7	53.2	35.8	57.1	40.1	38.1	31.2	35.0	58.4	135.2	57.8
COLUMBUS COUNTY	313	83.1	84.4	71.8	69.2	81.0	68.1	56.7	48.9	67.6	45.7	47.1	35.8	40.7	67.9	154.3	66.0
WHITEVILLE CITY	175	82.8	85.8	80.1	69.7	81.8	67.1	54.6	45.0	66.7	37.0	49.9	51.0	40.0	66.6	154.3	66.0
CUMBERLAND COUNTY	2553	78.7	82.2	70.6	65.1	77.6	63.2	52.8	42.1	61.9	41.5	44.8	31.1	37.7	62.8	144.2	61.6
HARNETT COUNTY	582	81.3	85.9	74.0	70.5	81.4	67.7	53.5	38.6	64.9	47.1	45.0	33.2	39.8	66.4	150.5	64.3
HOKE COUNTY	274	81.9	87.0	74.4	69.3	82.9	67.5	55.8	49.2	71.1	48.2	49.8	41.7	41.3	68.9	158.2	67.6
LEE COUNTY	415	81.8	86.2	73.1	70.7	83.9	65.8	53.7	47.1	67.1	45.9	47.9	41.7	39.9	66.5	154.7	66.1
MONTGOMERY COUNTY	256	75.6	84.5	70.3	63.9	78.9	63.0	46.7	36.4	63.3	44.1	45.2	23.0	37.9	63.2	143.4	61.3
MOORE COUNTY	450	80.8	85.2	74.2	66.3	79.3	66.0	53.5	42.2	59.9	42.2	45.8	36.2	37.7	62.9	146.6	62.6
RICHMOND COUNTY	506	75.7	79.3	65.6	65.2	76.0	58.8	45.1	39.1	58.8	37.4	40.0	29.9	35.2	58.7	136.7	58.4
ROBESON COUNTY	596	77.4	81.1	65.1	62.2	78.0	64.2	52.4	40.5	61.4	38.6	42.2	30.0	37.3	62.1	141.9	60.6
FAIRMONT CITY	81	74.2	78.3	72.8	54.1	76.6	57.7	46.1	39.7	69.6	44.9	47.8	37.8	37.1	61.8	143.8	61.5
LUMBERTON CITY	271	76.0	77.6	65.6	58.1	75.7	59.2	42.4	36.4	57.2	42.8	42.7	35.6	35.3	58.9	135.6	57.9
RED SPRINGS	100	69.3	74.5	59.9	56.4	71.3	50.2	40.0	27.4	40.2	30.1	33.2	22.2	29.7	49.5	114.2	48.8
SAINT PAULS CITY	89	74.0	80.1	73.5	63.4	77.0	66.8	53.3	39.8	65.5	54.8	49.3	35.6	38.1	63.4	148.3	63.4
SCOTLAND COUNTY	424	81.2	88.3	73.7	70.3	80.9	66.8	57.0	47.1	68.4	42.8	51.4	30.0	40.0	66.7	155.0	66.2

NOTE: THE NUMBER OF ITEMS IN EACH GOAL AREA IS DIRECTLY PROPORTIONAL TO THE NUMBER OF OBJECTIVES FOR THE GOAL. FIVE FORMS OF A 95-ITEM TEST WERE ADMINISTERED IN EVERY CLASSROOM. SIXTY OF THE 95 ITEMS WERE COMMON ACROSS THE FIVE FORMS (CORE). THE REMAINING 35 ITEMS VARIED BY FORM, SO THAT 235 ITEMS WERE MEASURED IN EVERY CLASSROOM. GOAL AREAS INCLUDE BOTH CORE AND VARIABLE ITEMS.

TABLE 9, cont'd

NORTH CAROLINA END-OF-COURSE TESTING PROGRAM

ALGEBRA I --- 1989

REGION NORTH CENTRAL

REGION REPORT

GOALS

GOAL 1: USE THE LANGUAGE OF ALGEBRA
GOAL 2: USE THE STRUCTURAL PROPERTIES OF NUMBER SYSTEMS
GOAL 3: PERFORM OPERATIONS WITH RATIONAL NUMBERS
GOAL 4: LOCATE NUMBERS ON NUMBER LINE OR COORDINATE PLANE
GOAL 5: PERFORM OPERATIONS WITH REAL NUMBERS
GOAL 6: SOLVE LINEAR EQUATIONS
GOAL 7: SOLVE LINEAR INEQUALITIES
GOAL 8: UNDERSTAND AND SOLVE SYSTEMS OF LINEAR EQUATIONS
GOAL 9: PERFORM OPERATIONS WITH POLYNOMIALS
GOAL 10: SOLVE QUADRATIC EQUATIONS
GOAL 11: PERFORM OPERATIONS WITH ALGEBRAIC FRACTIONS
GOAL 12: SIMPLIFY EXPRESSIONS WHICH CONTAIN RADICALS

	NUMBER TESTED	GOAL 1	GOAL 2	GOAL 3	GOAL 4	GOAL 5	GOAL 6	GOAL 7	GOAL 8	GOAL 9	GOAL 10	GOAL 11	GOAL 12	AVG CORE	PCT CORE	AVG ALL ITEMS	PCT ALL ITEMS
NUMBER OF ITEMS		15	17	6	15	31	32	6	20	50	11	25	6	60	60	234	234
ALAMANCE COUNTY	647	78.6	81.2	69.9	67.4	78.4	63.7	49.2	39.3	61.3	41.9	45.6	33.2	37.1	61.9	144.1	61.6
BURLINGTON CITY	379	82.4	88.0	73.9	74.7	82.8	67.5	56.9	48.1	66.9	41.5	47.0	46.6	41.1	68.5	155.8	66.6
CASWELL COUNTY	210	72.6	78.9	63.6	59.6	75.7	57.2	41.5	31.1	53.4	36.8	40.6	32.2	34.0	56.7	130.4	55.7
CHATHAM COUNTY	339	87.1	92.6	79.9	74.9	86.4	72.7	70.1	56.5	76.6	53.1	55.6	49.6	44.5	74.1	171.4	73.2
DAVIDSON COUNTY	975	76.3	80.4	71.1	67.7	78.4	63.2	52.6	40.9	61.8	44.0	45.4	29.0	37.9	63.1	144.2	61.6
LEXINGTON CITY	189	70.1	79.3	62.1	60.7	73.7	59.1	43.4	42.7	60.8	35.9	38.1	41.1	35.7	59.5	136.1	58.2
THOMASVILLE CITY	136	76.8	89.1	66.5	64.3	80.9	67.1	42.8	44.8	64.4	43.1	41.2	42.9	39.0	65.0	148.2	63.3
FORSYTH COUNTY	2108	84.1	87.3	81.1	71.8	84.7	71.9	63.4	48.4	69.7	46.7	51.7	45.7	41.9	69.8	161.5	69.0
GUILFORD COUNTY	1490	84.4	88.5	77.8	72.8	83.8	72.9	66.5	50.6	71.2	49.4	52.7	40.5	42.0	70.1	163.3	69.8
GREENSBORO CITY	1518	80.4	83.4	71.1	60.1	78.1	64.8	53.5	41.2	63.9	44.4	48.1	32.0	38.7	64.5	146.7	62.7
HIGH POINT CITY	419	80.8	84.1	73.6	67.0	81.5	67.1	59.8	45.8	68.0	41.8	46.8	43.[illegible]	39.4	65.7	153.3	65.5
ORANGE COUNTY	272	80.2	87.0	76.9	69.1	80.8	67.5	54.3	43.4	62.1	40.3	42.0	33.4	38.6	64.3	148.4	63.4
CHAPEL HILL CITY	337	92.2	96.1	85.3	89.4	90.0	85.1	75.3	74.3	86.6	74.6	75.7	83.0	50.5	84.1	198.6	84.9
PERSON COUNTY	308	83.7	88.0	77.6	66.4	81.6	68.8	54.3	48.9	69.8	50.5	53.9	44.8	40.5	67.5	159.1	68.0
RANDOLPH COUNTY	604	84.3	88.3	78.1	73.5	83.4	70.9	63.7	49.3	68.6	46.9	49.9	42.4	41.6	69.3	160.0	68.4
ASHEBORO CITY	220	80.7	86.7	76.8	70.3	82.3	69.0	59.5	46.9	68.5	48.8	52.8	33.8	41.1	68.5	157.3	67.2
ROCKINGHAM COUNTY	207	82.6	88.3	76.1	72.5	82.6	68.4	59.2	46.6	62.2	41.9	46.3	45.5	39.7	66.1	153.2	65.5
EDEN CITY	216	80.7	90.2	73.8	69.4	81.5	69.7	55.7	44.2	65.9	46.6	45.4	31.3	40.5	67.5	153.3	65.5
WEST. ROCKINGHAM	191	76.4	81.4	61.2	61.0	76.0	63.2	53.3	45.5	63.7	43.7	47.7	24.8	37.7	62.9	144.3	61.7
REIDSVILLE CITY	188	78.6	85.6	69.0	67.4	81.3	68.3	52.4	47.9	64.6	36.7	38.7	31.8	38.6	64.3	148.3	63.4
STOKES COUNTY	341	80.0	84.5	70.6	65.3	79.1	65.6	54.8	42.4	64.6	45.7	46.3	33.8	38.9	64.8	148.6	63.5

NOTE: THE NUMBER OF ITEMS IN EACH GOAL AREA IS DIRECTLY PROPORTIONAL TO THE NUMBER OF OBJECTIVES FOR THE GOAL. FIVE FORMS OF A 95-ITEM TEST WERE ADMINISTERED IN EVERY CLASSROOM. SIXTY OF THE 95 ITEMS WERE COMMON ACROSS THE FIVE FORMS (CORE). THE REMAINING 35 ITEMS VARIED BY FORM, SO THAT 235 ITEMS WERE MEASURED IN EVERY CLASSROOM. GOAL AREAS INCLUDE BOTH CORE AND VARIABLE ITEMS.

TABLE 9, cont'd

NORTH CAROLINA END-OF-COURSE TESTING PROGRAM

ALGEBRA I --- 1989

REGION SOUTHWEST

REGION REPORT

GOALS

GOAL 1: USE THE LANGUAGE OF ALGEBRA
GOAL 2: USE THE STRUCTURAL PROPERTIES OF NUMBER SYSTEMS
GOAL 3: PERFORM OPERATIONS WITH RATIONAL NUMBERS
GOAL 4: LOCATE NUMBERS ON NUMBER LINE OR COORDINATE PLANE
GOAL 5: PERFORM OPERATIONS WITH REAL NUMBERS
GOAL 6: SOLVE LINEAR EQUATIONS
GOAL 7: SOLVE LINEAR INEQUALITIES
GOAL 8: UNDERSTAND AND SOLVE SYSTEMS OF LINEAR EQUATIONS
GOAL 9: PERFORM OPERATIONS WITH POLYNOMIALS
GOAL 10: SOLVE QUADRATIC EQUATIONS
GOAL 11: PERFORM OPERATIONS WITH ALGEBRAIC FRACTIONS
GOAL 12: SIMPLIFY EXPRESSIONS WHICH CONTAIN RADICALS

	NUMBER TESTED	GOAL 1	GOAL 2	GOAL 3	GOAL 4	GOAL 5	GOAL 6	GOAL 7	GOAL 8	GOAL 9	GOAL 10	GOAL 11	GOAL 12	AVG CORE	PCT CORE	AVG ALL ITEMS	PCT ALL ITEMS
NUMBER OF ITEMS		15	17	6	15	31	32	6	20	50	11	25	6	60	60	234	234
ANSON COUNTY	228	71.3	76.3	66.6	57.6	72.9	55.0	43.8	38.5	51.9	36.1	40.7	21.9	33.5	55.8	128.3	54.8
CABARRUS COUNTY	733	83.7	87.1	79.5	75.7	83.2	68.7	59.1	49.9	65.5	45.3	44.6	39.4	39.8	66.3	156.0	66.7
KANNAPOLIS CITY	271	69.7	72.7	61.3	61.0	69.8	51.3	45.2	35.7	49.4	34.3	35.4	23.0	32.7	54.5	122.2	52.2
CLEVELAND COUNTY	384	78.9	82.0	70.3	67.6	78.9	63.9	54.6	47.8	65.0	44.9	50.6	42.8	38.7	64.6	150.5	64.3
KINGS MTN. CITY	223	81.2	84.5	74.0	68.0	80.9	69.6	50.4	43.3	65.4	49.3	48.6	41.1	39.4	65.6	153.0	65.4
SHELBY CITY	181	77.3	83.7	79.2	65.3	80.0	64.6	59.4	48.4	65.2	47.2	44.7	32.9	39.0	65.0	150.0	64.1
GASTON COUNTY	1735	78.4	81.8	69.4	64.4	77.4	61.5	50.2	40.1	61.4	39.4	44.4	28.1	37.0	61.7	142.0	60.7
LINCOLN COUNTY	551	75.2	84.0	70.6	64.8	76.4	63.1	49.1	34.6	58.0	39.8	38.4	25.0	35.9	59.8	137.7	58.9
MECKLENBURG COUNT	4346	81.6	85.5	74.3	70.6	80.9	66.9	56.1	47.3	65.2	47.9	48.7	37.0	39.8	66.3	153.4	65.5
ROWAN COUNTY	763	79.6	87.3	72.7	69.7	80.7	66.1	53.6	43.8	65.3	45.6	46.9	30.2	39.3	65.5	150.9	64.5
SALISBURY CITY	159	85.1	82.9	78.2	74.1	82.1	70.6	58.8	56.1	68.0	50.6	51.5	49.4	42.2	70.4	160.9	68.8
STANLY COUNTY	434	81.5	85.0	74.8	71.5	83.4	66.7	55.6	44.6	65.8	39.3	44.7	27.5	40.0	66.6	151.4	64.7
ALBEMARLE CITY	121	82.0	86.2	74.5	72.6	80.2	68.4	66.1	48.6	68.3	47.8	46.7	38.8	39.7	66.1	156.2	66.7
UNION COUNTY	606	85.9	88.0	82.9	74.4	85.4	74.5	65.4	46.6	72.4	51.1	50.7	45.4	41.9	69.9	164.7	70.4
MONROE CITY	159	76.0	83.4	74.1	65.0	80.7	64.9	54.8	45.6	61.9	39.5	43.4	37.0	38.4	64.0	146.3	62.5

NOTE: THE NUMBER OF ITEMS IN EACH GOAL AREA IS DIRECTLY PROPORTIONAL TO THE NUMBER OF OBJECTIVES FOR THE GOAL. FIVE FORMS OF A 95-ITEM TEST WERE ADMINISTERED IN EVERY CLASSROOM. SIXTY OF THE 95 ITEMS WERE COMMON ACROSS THE FIVE FORMS (CORE). THE REMAINING 35 ITEMS VARIED BY FORM, SO THAT 235 ITEMS WERE MEASURED IN EVERY CLASSROOM. GOAL AREAS INCLUDE BOTH CORE AND VARIABLE ITEMS.

TABLE 9, cont'd

NORTH CAROLINA END-OF-COURSE TESTING PROGRAM

ALGEBRA I --- 1989

REGION NORTHWEST

REGION REPORT

GOALS

GOAL 1: USE THE LANGUAGE OF ALGEBRA
GOAL 2: USE THE STRUCTURAL PROPERTIES OF NUMBER SYSTEMS
GOAL 3: PERFORM OPERATIONS WITH RATIONAL NUMBERS
GOAL 4: LOCATE NUMBERS ON NUMBER LINE OR COORDINATE PLANE
GOAL 5: PERFORM OPERATIONS WITH REAL NUMBERS
GOAL 6: SOLVE LINEAR EQUATIONS
GOAL 7: SOLVE LINEAR INEQUALITIES
GOAL 8: UNDERSTAND AND SOLVE SYSTEMS OF LINEAR EQUATIONS
GOAL 9: PERFORM OPERATIONS WITH POLYNOMIALS
GOAL 10: SOLVE QUADRATIC EQUATIONS
GOAL 11: PERFORM OPERATIONS WITH ALGEBRAIC FRACTIONS
GOAL 12: SIMPLIFY EXPRESSIONS WHICH CONTAIN RADICALS

	NUMBER TESTED	GOAL 1	GOAL 2	GOAL 3	GOAL 4	GOAL 5	GOAL 6	GOAL 7	GOAL 8	GOAL 9	GOAL 10	GOAL 11	GOAL 12	AVG CORE	PCT CORE	AVG ALL ITEMS	PCT ALL ITEMS
NUMBER OF ITEMS		15	17	6	15	31	32	6	20	50	11	25	6	60	60	234	234
ALEXANDER COUNTY	251	79.1	86.0	66.6	65.4	80.9	61.2	52.4	46.2	66.9	43.3	46.6	24.4	38.9	64.8	148.7	63.5
ALLEGHANY COUNTY	73	73.1	78.6	58.2	69.4	76.3	59.0	41.5	38.9	64.3	41.9	39.8	45.5	37.0	61.7	140.5	60.0
ASHE COUNTY	168	87.7	91.8	75.3	80.6	84.2	73.5	60.4	53.6	75.2	47.3	59.9	38.5	43.4	72.3	169.4	72.4
AVERY COUNTY	146	73.6	74.7	62.8	64.5	72.1	60.0	47.2	38.3	55.9	40.3	40.4	29.1	35.5	59.1	133.5	57.0
BURKE COUNTY	625	83.2	87.5	76.1	70.3	83.3	70.0	58.3	47.4	70.4	48.0	52.5	30.0	41.2	68.7	159.1	68.0
CALDWELL COUNTY	552	82.7	85.7	77.4	70.7	82.3	67.9	53.4	45.9	68.6	49.4	49.4	44.1	40.5	67.4	156.6	66.9
CATAWBA COUNTY	663	86.9	91.1	83.2	75.6	86.9	74.1	62.2	52.5	75.2	54.0	56.6	56.5	43.8	72.9	170.8	73.0
HICKORY CITY	266	84.9	88.4	77.6	69.7	84.1	70.2	55.2	46.6	72.4	46.0	53.0	44.5	41.0	68.3	161.2	68.9
NEWTON CITY	163	82.9	88.5	70.1	77.9	83.5	67.4	52.2	48.3	68.0	41.5	47.0	40.5	40.3	67.2	156.3	66.8
DAVIE COUNTY	294	83.1	85.8	78.5	67.1	81.5	68.1	60.1	42.3	69.9	53.5	54.4	43.6	40.8	67.9	158.0	67.5
IREDELL COUNTY	540	76.6	79.6	67.3	62.7	76.6	60.6	51.7	43.3	58.3	38.9	40.6	30.7	36.5	60.9	138.8	59.3
MOORESVILLE CITY	12[illegible]	85.0	86.3	77.9	65.9	85.1	73.6	56.9	42.3	67.0	50.2	49.0	40.2	41.0	68 3	157.5	67.3
STATESVILLE CITY	152	78.9	82.6	70.2	69.7	79.5	68.6	60.3	47.8	67.7	48.7	49.3	44.3	39.4	65.7	154.5	66.0
SURRY COUNTY	476	80.6	87.2	70.7	75.0	83.2	67.8	51.4	49.0	67.5	45.3	48.3	39.6	40.6	67.6	156.0	66.7
ELKIN CITY	78	81.8	89.5	74.2	76.9	83.2	72.4	62.2	58.1	72.8	54.2	52.1	33.0	42.8	71.3	165.2	70.6
MOUNT AIRY CITY	130	88.6	90.3	78.3	81.7	87.0	72.9	65.2	45.9	79.7	51.8	60.6	41.3	44.5	74.2	172.1	73.6
WATAUGA COUNTY	253	90.2	93.9	84.0	81.8	85.0	77.9	71.8	60.1	81.5	61.4	61.3	51.5	46.2	76.9	180.3	77.1
WILKES COUNTY	576	80.0	83.2	67.4	71.7	79.6	65.7	49.0	39.8	61.2	40.6	43.3	33.7	38.2	63.6	145.4	62.1
YADKIN COUNTY	265	80.9	85.5	72.4	69.0	82.0	67.0	53.7	44.5	65.9	37.2	47.0	32.3	39.6	66.0	151.0	64.5

NOTE: THE NUMBER OF ITEMS IN EACH GOAL AREA IS DIRECTLY PROPORTIONAL TO THE NUMBER OF OBJECTIVES FOR THE GOAL. FIVE FORMS OF A 95-ITEM TEST WERE ADMINISTERED IN EVERY CLASSROOM. SIXTY OF THE 95 ITEMS WERE COMMON ACROSS THE FIVE FORMS (CORE). THE REMAINING 35 ITEMS VARIED BY FORM, SO THAT 235 ITEMS WERE MEASURED IN EVERY CLASSROOM. GOAL AREAS INCLUDE BOTH CORE AND VARIABLE ITEMS.

TABLE 9, cont'd

NORTH CAROLINA END-OF-COURSE TESTING PROGRAM

ALGEBRA I --- 1989

REGION WESTERN

REGION REPORT

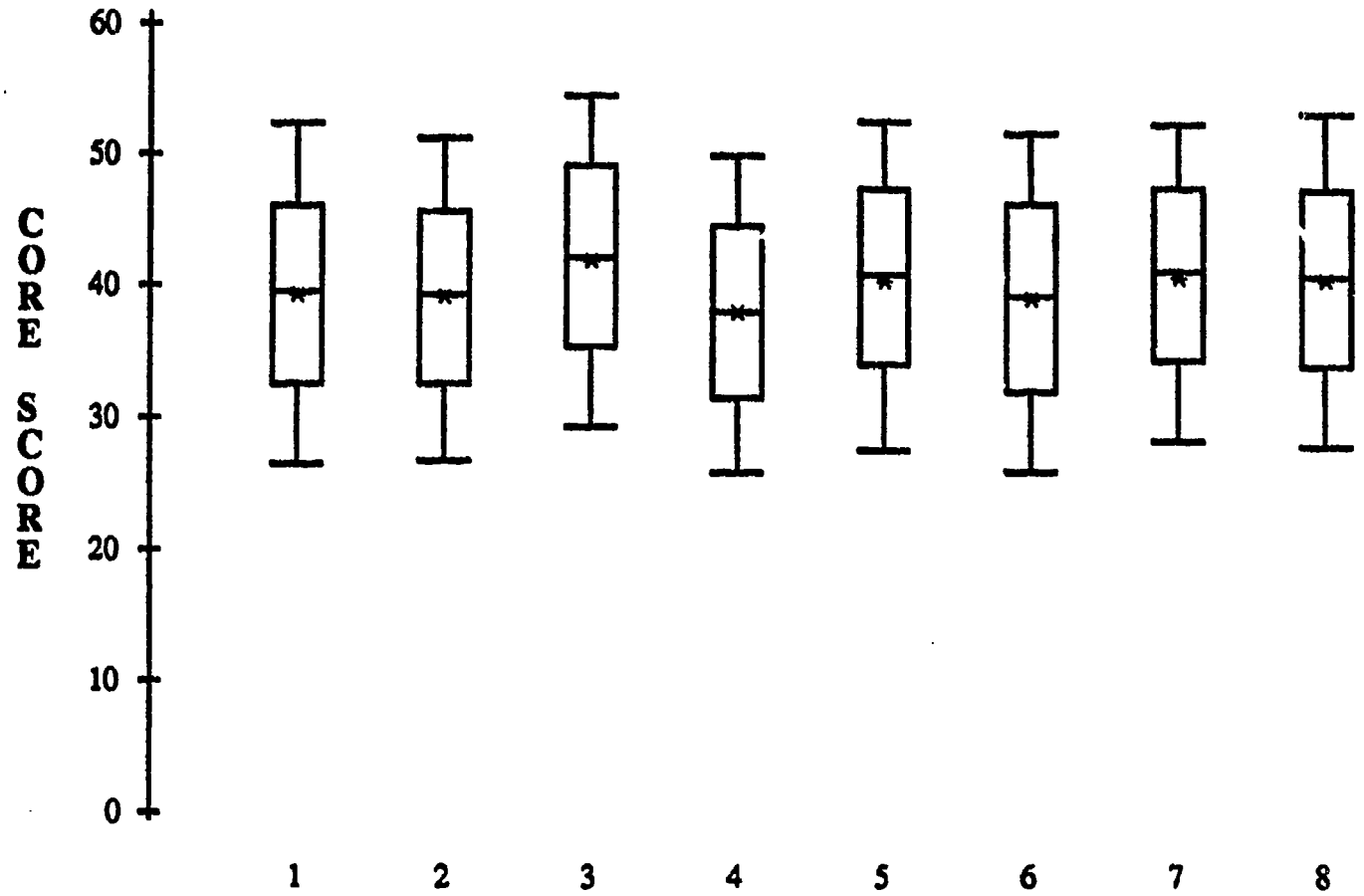
GOALS

GOAL 1: USE THE LANGUAGE OF ALGEBRA
GOAL 2: USE THE STRUCTURAL PROPERTIES OF NUMBER SYSTEMS
GOAL 3: PERFORM OPERATIONS WITH RATIONAL NUMBERS
GOAL 4: LOCATE NUMBERS ON NUMBER LINE OR COORDINATE PLANE
GOAL 5: PERFORM OPERATIONS WITH REAL NUMBERS
GOAL 6: SOLVE LINEAR EQUATIONS
GOAL 7: SOLVE LINEAR INEQUALITIES
GOAL 8: UNDERSTAND AND SOLVE SYSTEMS OF LINEAR EQUATIONS
GOAL 9: PERFORM OPERATIONS WITH POLYNOMIALS
GOAL 10: SOLVE QUADRATIC EQUATIONS
GOAL 11: PERFORM OPERATIONS WITH ALGEBRAIC FRACTIONS
GOAL 12: SIMPLIFY EXPRESSIONS WHICH CONTAIN RADICALS

	NUMBER TESTED	GOAL 1	GOAL 2	GOAL 3	GOAL 4	GOAL 5	GOAL 6	GOAL 7	GOAL 8	GOAL 9	GOAL 10	GOAL 11	GOAL 12	AVG CORE	PCT CORE	AVG ALL ITEMS	PCT ALL ITEMS
NUMBER OF ITEMS		15	17	6	15	31	32	6	20	50	11	25	6	60	60	234	234
BUNCOMBE COUNTY	1295	84.5	87.5	75.0	74.6	83.5	72.0	61.1	54.0	69.9	49.9	53.8	43.2	42.0	70.0	163.1	69.7
ASHEVILLE CITY	234	82.8	87.6	74.8	74.7	84.5	72.1	56.8	49.2	72.0	56.8	56.6	48.4	42.3	70.5	164.8	70.4
CHEROKEE COUNTY	198	84.4	90.5	81.8	72.3	84.6	71.7	68.0	56.9	67.7	54.0	58.2	52.8	42.9	71.5	165.9	70.9
CLAY COUNTY	106	80.2	78.8	80.0	59.7	80.1	63.0	47.6	36.6	61.3	43.6	40.7	25.6	36.8	61.4	141.5	60.5
GRAHAM COUNTY	93	80.4	76.9	65.2	67.8	79.1	64.1	60.3	45.3	60.1	48.2	45.3	36.3	37.9	63.2	145.8	62.3
HAYWOOD COUNTY	467	82.2	85.2	72.1	71.2	78.2	65.4	52.5	43.0	66.4	43.4	49.2	36.1	39.2	65.4	151.2	64.6
HENDERSON COUNTY	425	86.5	90.2	79.8	75.3	84.8	74.1	59.9	56.2	75.2	53.7	57.8	48.0	43.6	72.6	170.1	72.7
HENDRSNVLLE CITY	154	74.5	85.1	76.4	66.7	79.0	64.3	55.4	45.2	65.2	44.4	45.7	36.4	38.9	64.8	148.7	63.6
JACKSON COUNTY	214	84.1	88.8	75.8	72.3	83.8	69.3	60.7	49.2	63.5	45.7	48.8	30.1	40.5	67.4	155.5	66.5
MACON COUNTY	144	85.5	90.2	78.9	73.2	82.2	74.5	57.8	47.3	68.8	48.6	52.7	49.1	41.2	68.7	162.0	69.2
MADISON COUNTY	120	76.2	82.2	72.8	65.4	82.4	65.9	61.9	39.6	66.3	47.5	47.5	41.3	38.3	63.9	150.6	64.4
MCDOWELL COUNTY	342	80.0	85.2	70.3	67.8	80.0	62.6	50.9	41.0	61.8	39.3	45.6	28.9	37.9	63.1	145.3	62.1
MITCHELL COUNTY	145	71.8	75.7	62.2	59.2	75.5	59.6	47.8	35.1	55.1	36.9	37.0	26.4	35.8	59.6	131.0	56.0
POLK COUNTY	98	80.4	88.2	72.2	75.4	81.0	69.6	49.1	45.0	61.6	38.3	42.8	50.6	39.0	65.0	150.8	64.4
RUTHERFORD COUNTY	469	82.3	87.4	75.9	70.7	81.4	69.5	53.2	44.4	69.7	49.6	51.2	51.0	40.2	67.0	158.1	67.5
SWAIN COUNTY	119	68.8	77.7	61.5	67.0	74.0	58.0	40.9	37.4	52.6	41.0	38.1	28.4	34.1	56.8	130.8	55.9
TRANSYLVANIA COUN	267	81.2	83.8	73.8	70.1	77.6	66.3	56.8	41.4	66.4	46.9	48.8	31.5	39.1	65.1	150.8	64.4
YANCEY COUNTY	138	78.2	82.0	72.0	68.7	77.8	61.5	56.8	43.4	59.8	42.9	42.8	24.5	36.8	61.4	143.0	61.1

NOTE: THE NUMBER OF ITEMS IN EACH GOAL AREA IS DIRECTLY PROPORTIONAL TO THE NUMBER OF OBJECTIVES FOR THE GOAL. FIVE FORMS OF A 95-ITEM TEST WERE ADMINISTERED IN EVERY CLASSROOM. SIXTY OF THE 95 ITEMS WERE COMMON ACROSS THE FIVE FORMS (CORE). THE REMAINING 35 ITEMS VARIED BY FORM, SO THAT 235 ITEMS WERE MEASURED IN EVERY CLASSROOM. GOAL AREAS INCLUDE BOTH CORE AND VARIABLE ITEMS.

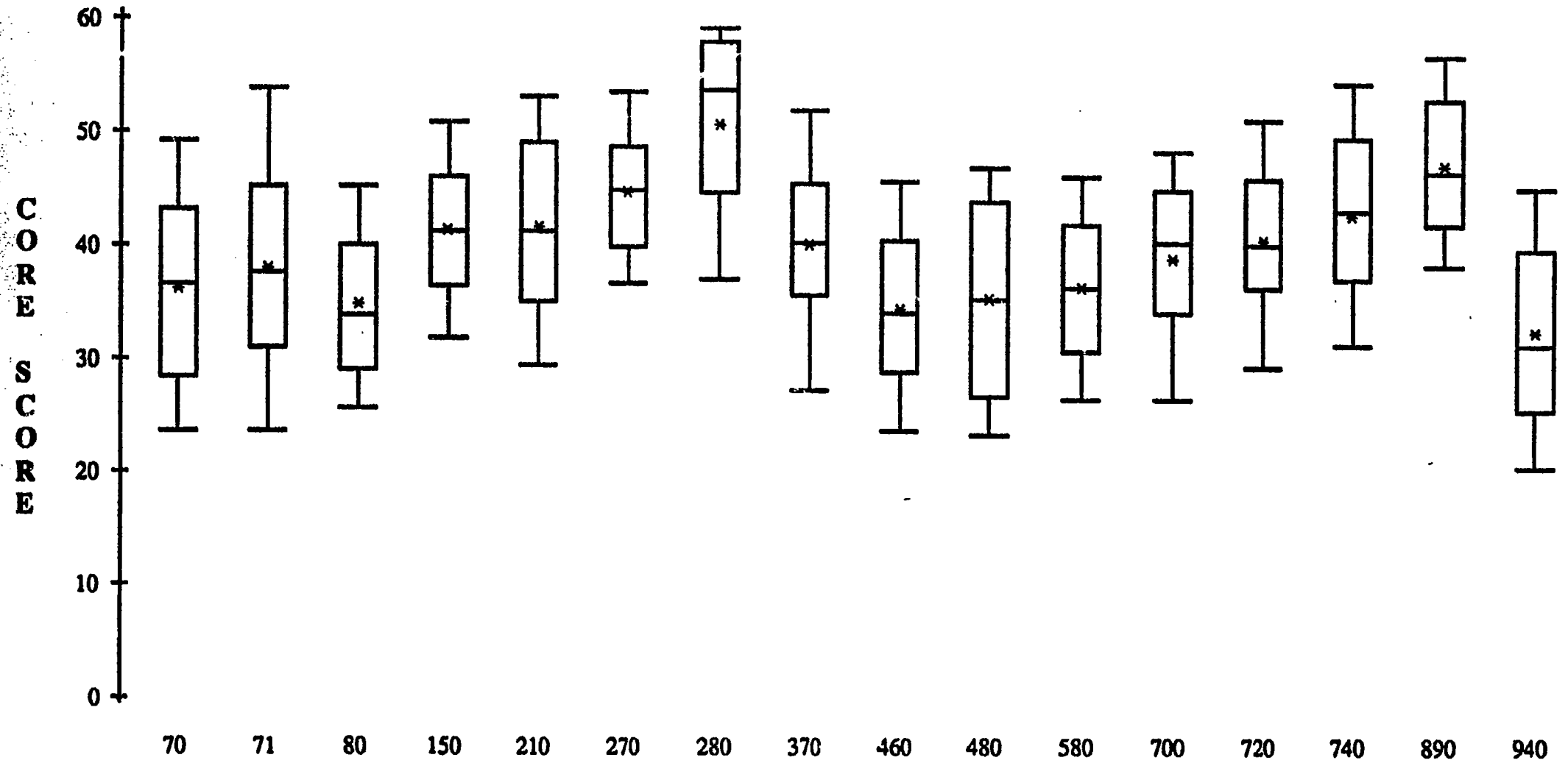
Figure 7. Distributions of Algebra I Core Scores by Regions -- 1989



Regions :

1 Northeast	5 North Central
2 Southeast	6 Southwest
3 Central	7 Northwest
4 South Central	8 Western

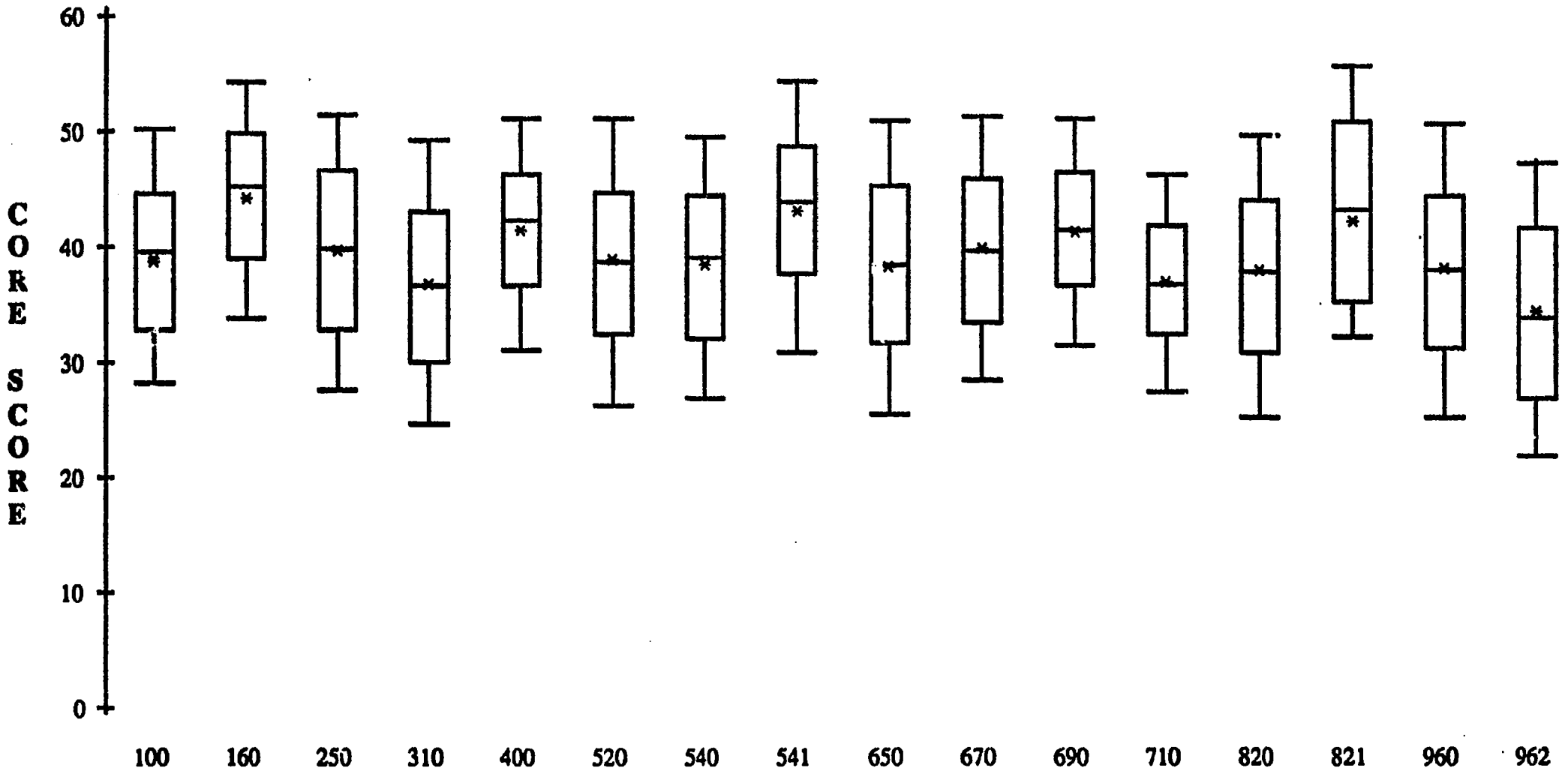
Figure 8. Distributions of Algebra I Core Scores by School Systems in the Northeast Region -- 1989



Northeast Region School Systems:

70 Beaufort Co.	210 Chowan Co.	460 Hertford Co.	720 Perquimans Co.
71 Washington City	270 Currituck Co.	480 Hyde Co.	740 Pitt Co.
80 Bertie Co.	280 Dare Co.	580 Martin Co.	890 Tyrrell Co.
150 Camden Co.	370 Gates Co.	700 Pasquotank Co.	940 Washington Co.

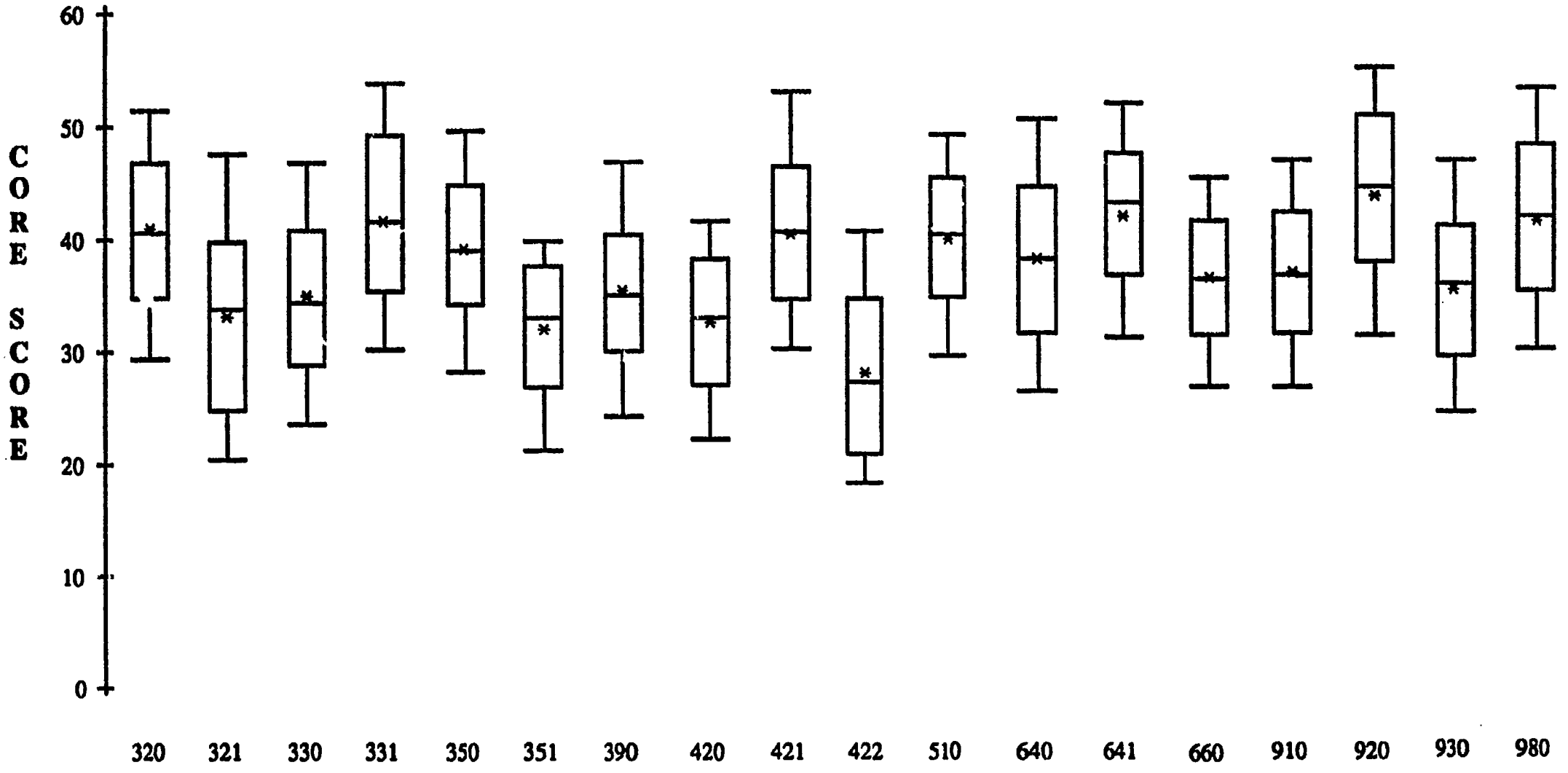
Figure 9. Distributions of Algebra I Core Scores by School Systems in the Southeast Region -- 1989



Southeast Region School Systems:

100 Brunswick Co.	400 Greene Co.	650 New Hanover Co.	820 Sampson Co.
160 Carteret Co.	520 Jones Co.	670 Onslow Co.	821 Clinton City
250 Craven Co.	540 Lenoir Co.	690 Pamlico Co.	960 Wayne Co.
310 Duplin Co.	541 Kinston City	710 Pender Co.	962 Goldsboro City

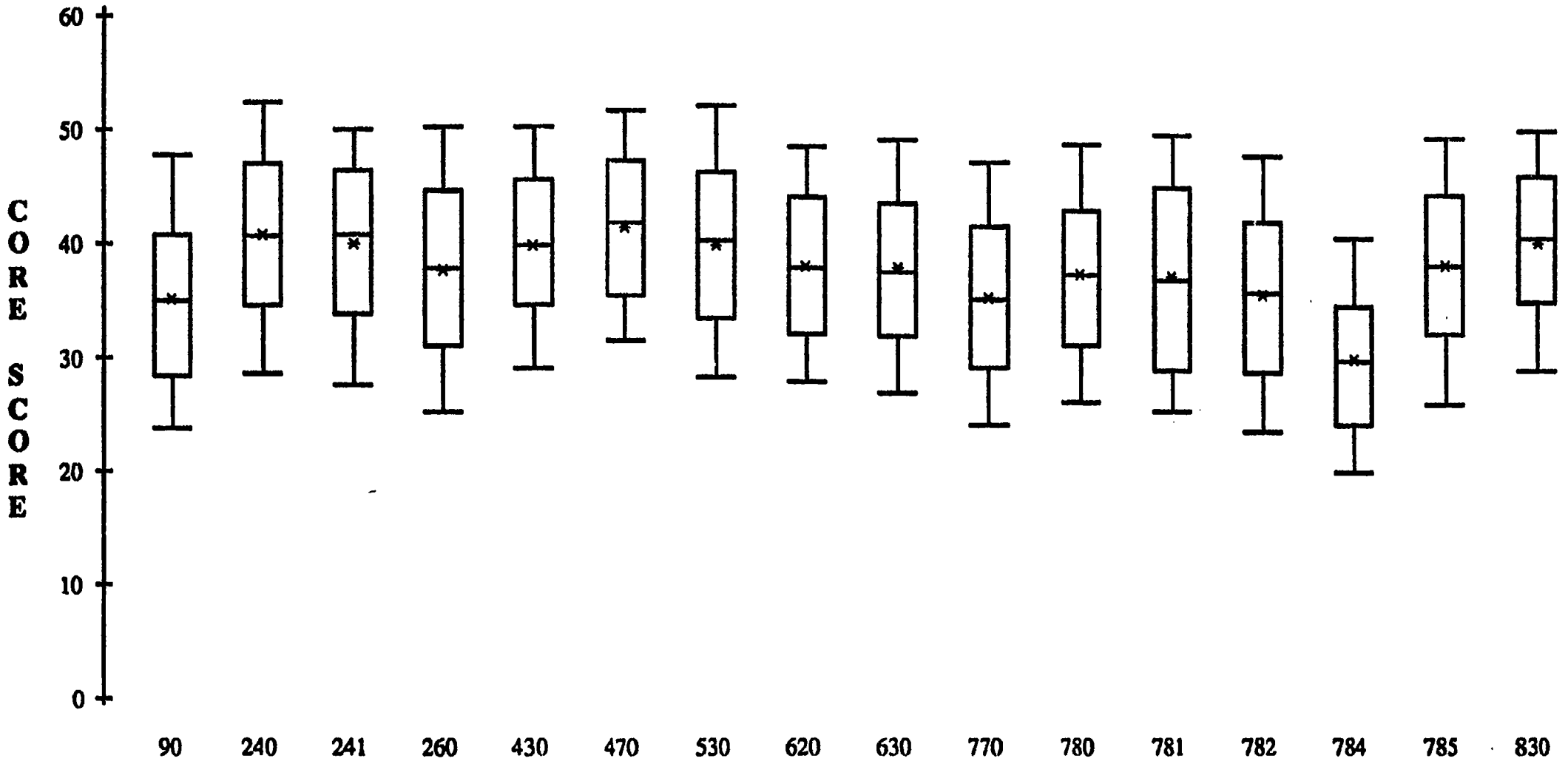
Figure 10. Distributions of Algebra I Core Scores by School Systems in the Central Region -- 1989



Central Region School Systems:

320 Durham Co.
321 Durham City
330 Edgecombe Co.
331 Tarboro City
350 Franklin Co.
351 Franklinton City
390 Granville Co.
420 Halifax Co.
421 Roanoke Rapids City
422 Weldon City
510 Johnston Co.
640 Nash Co.
641 Rocky Mount City
660 Northampton Co.
910 Vance Co.
920 Wake Co.
930 Warren Co.
980 Wilson Co.

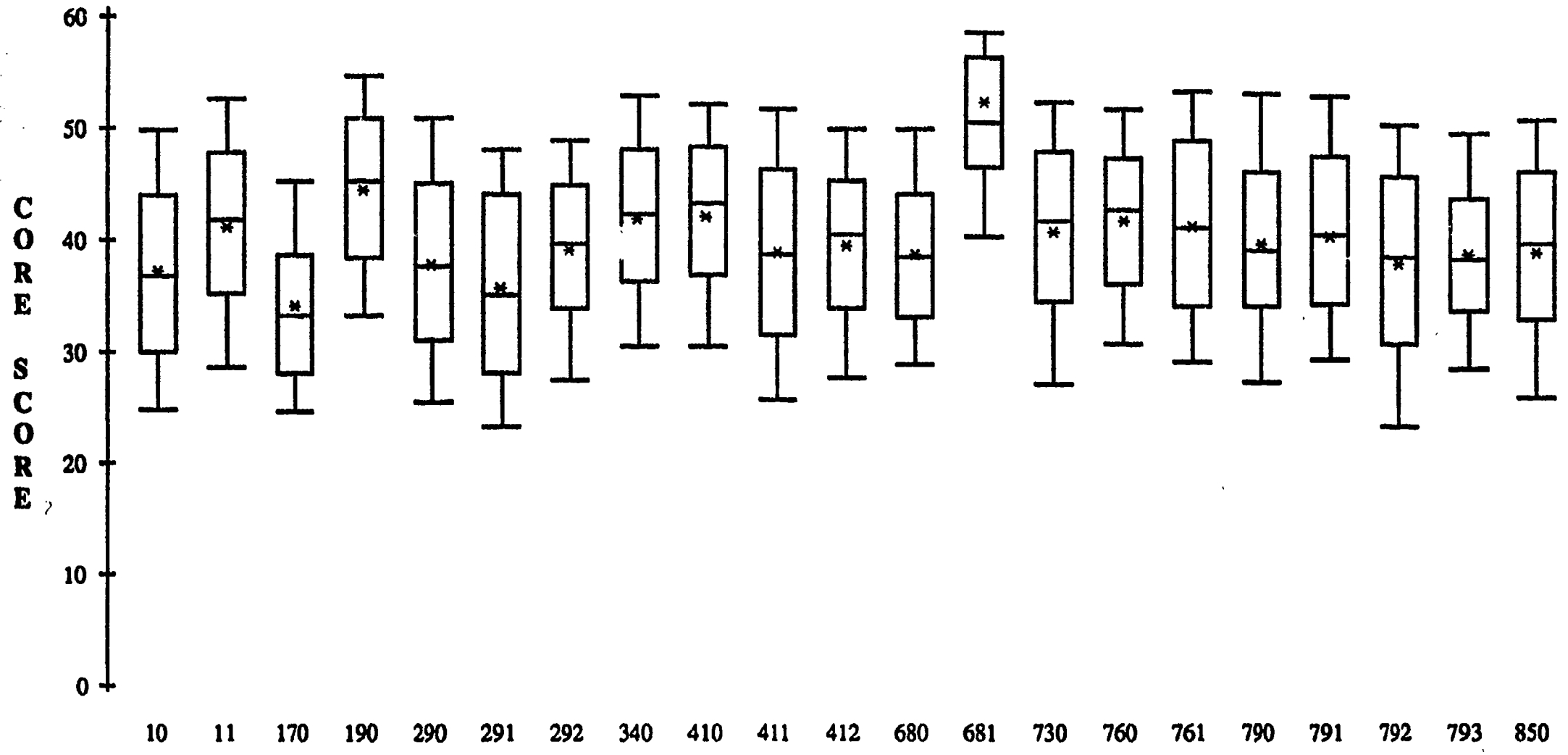
Figure 11. Distributions of Algebra I Core Scores by School Systems in the South Central Region -- 1989



South Central Region School Systems:

90 Bladen Co.	430 Harnett Co.	630 Moore Co.	782 Lumberton City
240 Columbus Co.	470 Hoke Co.	770 Richmond Co.	784 Red Springs City
241 Whiteville City	530 Lee Co.	780 Robeson Co.	785 St. Pauls City
260 Cumberland Co.	620 Montgomery Co.	781 Fairmont City	830 Scotland Co.

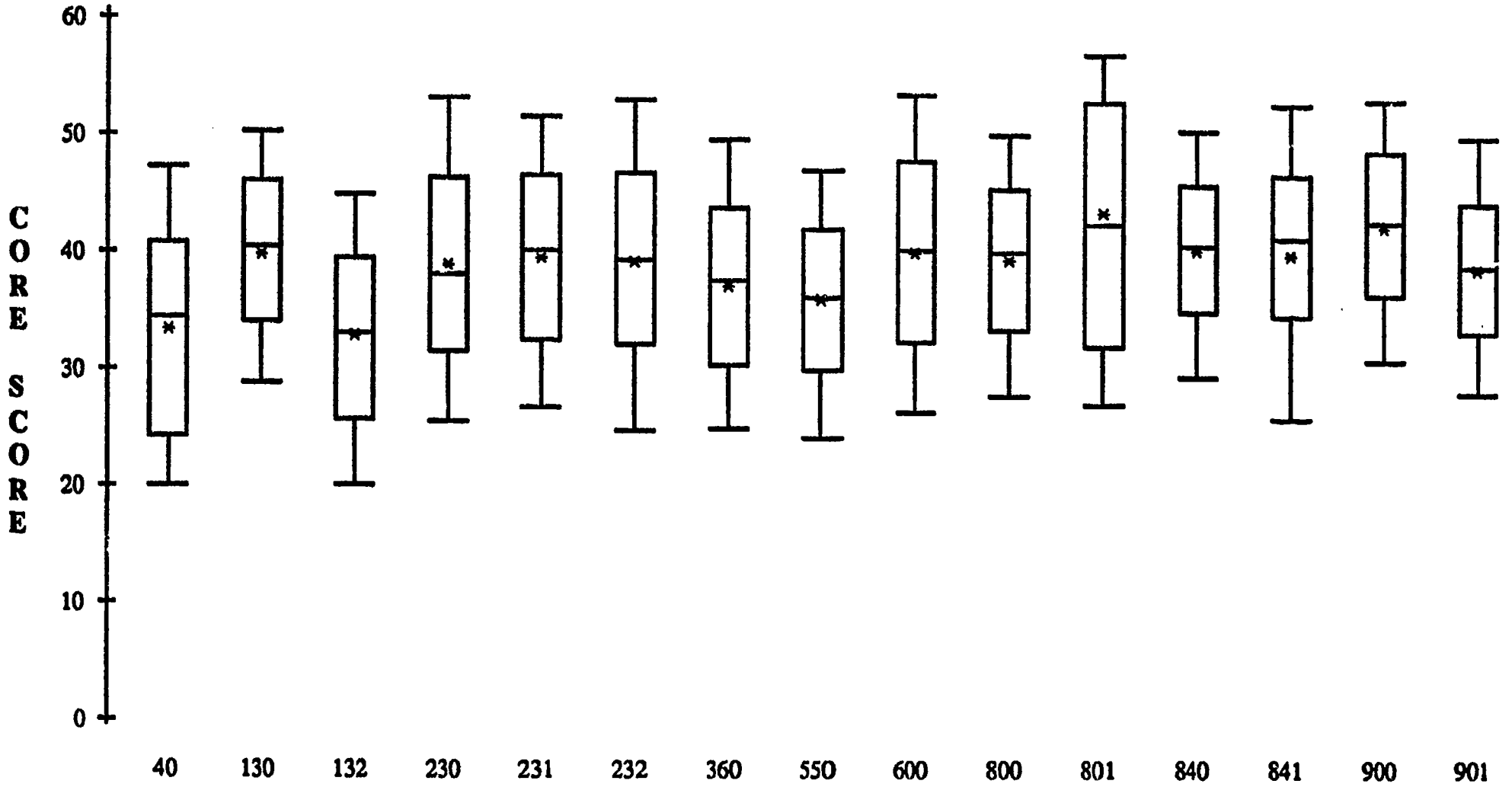
Figure 12. Distributions of Algebra I Core Scores by School Systems in the North Central Region -- 1989



North Central Region School Systems:

10 Alamance Co.	291 Lexington City	412 High Point City	761 Asheboro City	850 Stokes Co.
11 Burlington City	292 Thomasville City	680 Orange Co.	790 Rockingham Co.	
170 Caswell Co.	340 Forsyth Co.	681 Chapel Hill City	791 Eden City	
190 Chatham Co.	410 Guilford Co.	730 Person Co.	792 Western Rockingham City	
290 Davidson Co.	411 Greensboro City	760 Randolph Co.	793 Reidsville City	

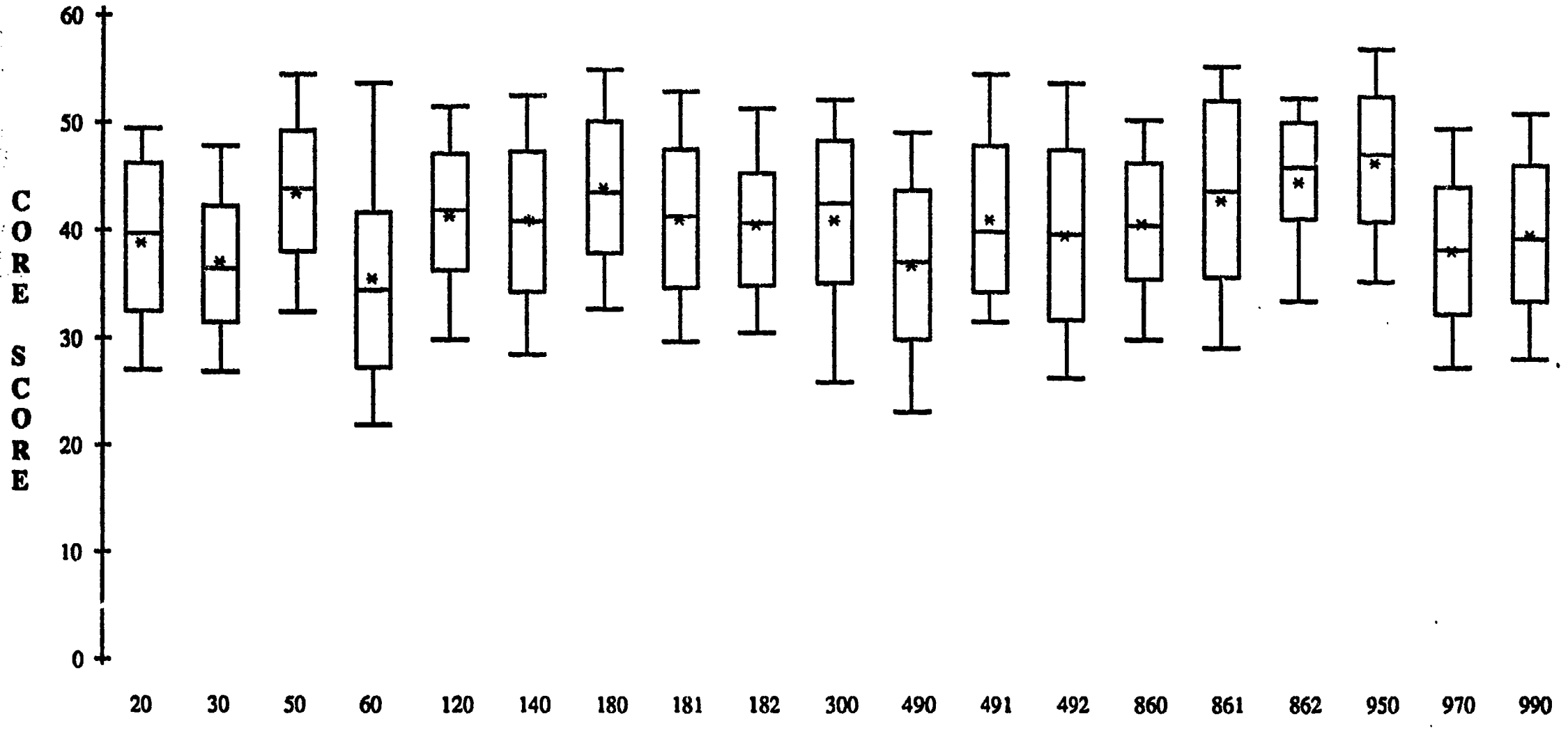
Figure 13. Distributions of Algebra I Core Scores by School Systems in the Southwest Region -- 1989



Southwest Region School Systems:

40 Anson Co.
130 Cabarrus Co.
132 Kannapolis City
230 Cleveland Co.
231 Kings Mountain City
232 Shelby City
360 Gaston Co.
550 Lincoln Co.
600 Mecklenburg Co.
800 Rowan Co.
801 Salisbury City
840 Stanley Co.
841 Albemarle City
900 Union Co.
901 Monroe City

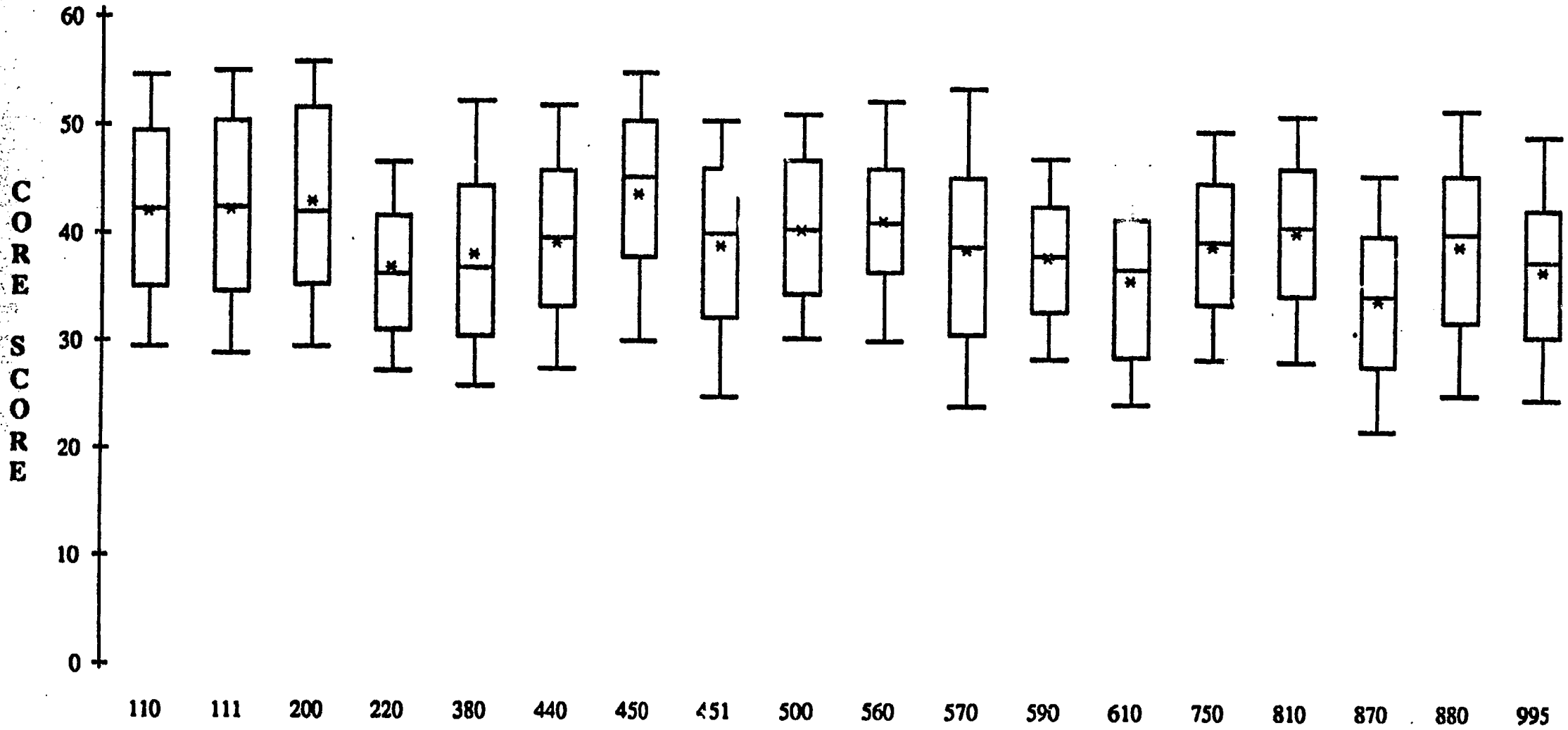
Figure 14. Distributions of Algebra I Core Scores by School Systems in the Northwest Region -- 1989



Northwest Region School Systems:

20 Alexander Co.	140 Caldwell Co.	490 Iredell Co.	862 Mount Airy City
30 Alleghany Co.	180 Catawba Co.	491 Mooresville City	950 Watauga Co.
50 Ashe Co.	181 Hickory City	492 Statesville City	970 Wilkes Co.
60 Avery Co.	182 Newton-Conover City	860 Surry Co.	990 Yadkin Co.
120 Burke Co.	300 Davie Co.	861 Elkin City	

Figure 15. Distributions of Algebra I Core Scores by School Systems in the Western Region -- 1989



Western Region School Systems:

110 Buncombe Co.
111 Asheville City
200 Cherokee Co.
220 Clay Co.
380 Graham Co.
440 Haywood Co.
450 Henderson Co.
451 Hendersonville City
500 Jackson Co.
560 Macon Co.
570 Madison Co.
590 McDowell Co.
610 Mitchell Co.
750 Polk Co.
810 Rutherford Co.
870 Swain Co.
880 Transylvania Co.
995 Yancey Co.

TABLE 10
North Carolina End-of-Course Testing Program
Core Performance, Participation Rate, Yield, and Effective Yield
Algebra I: 1986-1989

Region Northeast

School System	1986				1987				1988				1989			
	Average Core	Percent of Class	Yield	Effective Yield	Average Core	Percent of Class	Yield	Effective Yield	Average Core	Percent of Class	Yield	Effective Yield	Average Core	Percent of Class	Yield	Effective Yield
Beaufort County	33.6	62.9	35.2	26.7	36.3	53.2	32.2	25.8	34.8	57.5	33.4	24.7	36.2	56.9	34.3	26.9
Washington City	36.0	64.9	38.9	32.2	37.2	68.3	42.3	33.3	38.9	81.0	52.5	40.6	38.1	77.6	49.2	40.8
Bertie County	34.6	77.3	44.6	35.0	36.4	52.4	31.8	27.6	36.8	71.6	43.9	39.4	34.9	72.1	41.9	34.8
Camden County	37.5	85.4	53.4	48.2	41.8	63.6	44.4	42.2	42.2	77.2	54.3	51.6	41.4	66.7	46.0	45.2
Chowan County	40.7	67.5	45.8	42.1	40.4	92.6	62.3	55.8	40.7	70.1	47.5	44.7	41.6	56.3	39.1	36.8
Currituck County	46.2	65.9	50.7	49.3	47.1	48.5	38.1	37.7	46.8	55.7	43.4	43.4	44.6	55.3	41.1	41.1
Dare County	41.0	63.6	43.5	41.4	45.9	54.0	41.3	39.5	52.9	54.3	47.8	47.8	50.5	55.3	46.6	45.8
Gates County	39.2	68.9	45.0	42.1	42.7	52.4	37.3	34.8	38.9	73.9	48.0	40.9	40.1	71.7	48.0	42.9
Hertford County	32.2	36.6	19.6	14.1	37.0	47.7	29.4	22.9	38.4	56.8	36.4	31.3	34.5	55.8	32.1	25.8
Hyde County	34.7	40.8	23.6	21.2	34.2	52.1	29.7	21.2	35.5	50.6	29.9	24.5	35.4	50.0	29.5	20.2
Martin County	34.3	63.7	36.4	29.3	33.5	70.9	39.6	28.6	36.9	57.7	35.5	30.7	36.3	66.4	40.2	34.8
Pasquotank County	38.2	68.9	43.9	38.3	37.6	73.3	45.9	39.3	38.9	78.1	50.6	44.5	38.9	73.9	47.9	42.8
Perquimans County	41.9	55.8	39.0	37.5	44.0	65.7	48.2	47.8	37.8	67.6	42.6	35.5	40.3	80.0	53.8	49.7
Pitt County	34.3	70.3	40.2	30.2	39.4	82.0	53.9	47.7	42.1	59.4	41.7	40.0	42.8	67.1	47.9	46.0
Greenville City	40.6	86.8	58.7	55.1												
Tyrrell County	36.5	36.0	21.9	17.8	35.8	48.2	28.8	25.6	42.1	71.0	49.8	45.3	46.9	47.5	37.2	37.2
Washington County	31.1	63.2	32.8	22.8	34.1	68.1	38.7	28.2	33.8	70.9	39.9	30.9	32.5	83.1	45.0	30.4

Note: *Percent of class* is an estimate of Algebra I participation calculated by dividing the total number of Algebra I students by the number of students in the ninth grade class. *Yield* is an index of the effectiveness of an Algebra I program which combines participation and performance. It is calculated by multiplying the percent of a class taking Algebra I by the percent of core items answer correctly and then multiplying by 100. *Effective yield* is a similar index which counts as 'participating' in Algebra I only those students whose achievement is estimated to be passing.

TABLE 10, cont'd

North Carolina End-of-Course Testing Program
Core Performance, Participation Rate, Yield, and Effective Yield
Algebra I: 1986-1989

Region Southeast

School System	1986				1987				1988				1989			
	Average Core	Percent of Class	Yield	Effective Yield	Average Core	Percent of Class	Yield	Effective Yield	Average Core	Percent of Class	Yield	Effective Yield	Average Core	Percent of Class	Yield	Effective Yield
Brunswick County	30.7	61.2	31.3	19.8	35.7	51.2	30.5	23.1	37.5	49.5	30.9	26.2	39.0	61.0	39.6	36.0
Carteret County	39.9	64.6	43.0	40.4	45.6	58.9	44.8	43.8	43.6	54.4	39.5	37.9	44.2	67.0	49.4	48.2
Craven County	36.7	61.3	37.5	32.6	39.1	63.6	41.5	36.2	38.1	65.6	41.7	37.1	39.7	64.0	42.3	38.3
Duplin County	37.4	56.5	35.2	32.5	38.1	65.6	41.7	35.8	38.6	59.7	38.4	33.6	36.7	64.9	39.7	32.9
Greene County	38.4	59.1	37.8	34.3	41.7	55.7	38.7	36.5	38.6	52.1	33.5	30.3	41.3	66.1	45.5	43.2
Jones County	32.9	64.4	35.3	25.2	39.3	31.9	20.9	17.5	35.7	73.5	43.8	35.7	38.8	90.5	58.5	51.8
Lenoir County	34.6	52.6	30.3	25.1	36.1	64.9	39.0	31.4	39.4	63.0	38.2	31.8	38.4	67.6	43.3	38.6
Kinston City	41.7	55.4	38.5	37.4	43.6	58.4	42.4	40.6	42.7	53.5	38.1	36.1	43.1	69.2	43.2	41.3
New Hanover County	37.9	73.2	46.2	41.3	38.4	81.1	51.9	43.6	39.9	78.7	52.4	46.8	38.2	90.6	57.7	49.6
Onslow County	39.4	60.3	39.6	36.6	39.6	60.2	39.7	34.9	40.9	59.9	40.8	38.6	39.7	71.4	47.3	43.2
Pamlico County	36.4	41.7	25.3	21.8	38.4	51.1	32.7	2[illegible].5	38.7	50.5	32.5	31.3	41.2	48.7	33.5	32.0
Pender County	32.7	69.7	38.0	28.1	36.2	51.1	30.8	24.7	37.1	53.5	33.1	28.4	37.1	61.7	38.1	34.3
Sampson County	32.8	59.4	32.5	23.9	35.6	57.6	34.1	27.1	35.0	55.6	32.4	25.2	37.6	64.0	40.1	33.4
Clinton City	41.6	57.4	39.8	38.1	40.8	65.2	44.3	41.9	43.8	62.5	45.6	43.1	43.3	46.6	33.6	33.3
Wayne County	35.3	70.4	41.4	33.8	36.0	77.8	46.7	36.8	38.8	65.9	42.6	37.6	38.0	76.0	48.2	41.0
Goldsboro City	33.9	55.6	31.4	24.4	33.3	63.8	35.4	25.6	34.6	75.9	43.8	33.5	34.4	59.5	34.2	24.9

Note: *Percent of class* is an estimate of Algebra I participation calculated by dividing the total number of Algebra I students by the number of students in the ninth grade class. *Yield* is an index of the effectiveness of an Algebra I program which combines participation and performance. It is calculated by multiplying the percent of a class taking Algebra I by the percent of core items answer correctly and then multiplying by 100. *Effective yield* is a similar index which counts as 'participating' in Algebra I only those students whose achievement is estimated to be passing.

TABLE 10, cont'd.

North Carolina End-of-Course Testing Program
Core Performance, Participation Rate, Yield, and Effective Yield
Algebra I: 1986-1989

Region Central

School System	1986				1987				1988				1989			
	Average Core	Percent of Class	Yield	Effective Yield	Average Core	Percent of Class	Yield	Effective Yield	Average Core	Percent of Class	Yield	Effective Yield	Average Core	Percent of Class	Yield	Effective Yield
Durham County	39.6	76.4	50.4	45.7	41.6	75.5	52.3	49.5	41.0	75.7	51.8	48.1	42.0	78.8	55.2	52.6
Durham City	30.8	49.0	25.2	15.7	30.0	59.4	29.7	17.1	31.6	60.9	32.1	20.0	34.7	49.8	28.8	20.4
Edgecombe County	35.7	31.9	19.0	15.9	35.0	37.3	21.8	17.4	36.4	49.7	30.2	26.5	36.4	43.1	26.2	22.1
Tarboro City	43.5	42.2	30.6	29.6	42.0	66.4	46.5	43.8	42.6	54.1	38.4	37.0	43.2	51.5	37.1	34.5
Franklin County	38.2	63.5	40.4	37.4	41.8	62.6	43.6	40.7	39.8	53.4	35.5	33.0	40.7	55.0	37.3	35.1
Franklinton City	32.3	35.2	18.9	15.1	34.9	53.6	31.2	21.3	33.6	47.2	26.5	19.8	33.4	48.8	27.2	21.9
Granville County	38.3	61.7	39.4	34.0	38.7	74.8	48.2	42.4	36.1	55.6	33.5	27.8	36.9	71.5	44.0	37.9
Halifax County	30.5	49.4	25.1	15.7	29.5	53.6	26.3	14.2	28.9	61.9	29.8	17.4	34.0	37.3	21.1	16.3
Roanoke Rapids City	40.4	67.0	45.1	40.8	42.8	72.1	51.4	49.8	40.2	82.6	55.3	49.5	41.8	63.8	44.5	42.1
Weldon City	33.5	51.7	28.9	23.2	28.8	58.7	28.1	14.5	30.1	75.0	37.6	19.6	28.7	47.4	22.7	12.1
Johnston County	40.5	59.3	40.0	37.2	43.2	59.8	43.0	41.0	41.3	64.2	44.1	42.0	41.4	58.1	40.1	38.5
Nash County	37.2	64.3	39.9	34.8	39.3	71.3	46.7	39.1	39.6	69.0	45.5	39.7	39.7	66.7	44.1	40.1
Rocky Mount City	43.6	67.9	49.3	47.7	43.2	64.8	46.7	44.3	43.4	49.1	35.5	33.6	43.3	59.3	42.8	41.7
Northampton County	33.9	54.6	30.8	24.2	34.4	75.1	43.0	32.1	34.5	74.5	42.9	32.2	38.2	60.9	38.7	35.4
Vance County	37.3	49.7	30.9	27.6	38.8	53.5	34.6	31.4	37.9	63.8	40.3	35.9	38.4	53.9	34.5	31.5
Wake County	42.3	69.1	48.7	45.4	44.2	72.5	53.5	50.4	44.6	77.6	57.7	55.7	45.3	76.7	57.9	55.6
Warren County	38.6	40.3	25.9	23.6	36.9	51.2	31.5	25.7	38.7	47.0	30.3	27.5	36.9	50.0	30.7	26.3
Wilson County	39.5	53.2	35.0	31.8	41.0	48.9	33.4	30.5	42.1	53.2	37.3	34.4	42.8	55.8	39.8	38.1

Note: *Percent of class* is an estimate of Algebra I participation calculated by dividing the total number of Algebra I students by the number of students in the ninth grade class. *Yield* is an index of the effectiveness of an Algebra I program which combines participation and performance. It is calculated by multiplying the percent of a class taking Algebra I by the percent of core items answer correctly and then multiplying by 100. *Effective yield* is a similar index which counts as 'participating' in Algebra I only those students whose achievement is estimated to be passing.

TABLE 10, cont'd.

North Carolina End-of-Course Testing Program
Core Performance, Participation Rate, Yield, and Effective Yield
Algebra I: 1986-1989

Region South Central

School System	1986				1987				1988				1989			
	Average Core	Percent of Class	Yield	Effective Yield	Average Core	Percent of Class	Yield	Effective Yield	Average Core	Percent of Class	Yield	Effective Yield	Average Core	Percent of Class	Yield	Effective Yield
Bladen County	33.4	62.5	34.8	24.5	33.7	60.6	34.0	24.8	33.8	67.9	38.2	27.8	35.0	69.7	40.7	32.5
Columbus County	37.5	42.9	26.8	22.9	40.0	42.7	28.4	25.5	36.7	51.0	31.2	25.1	40.7	47.3	32.1	29.6
Whiteville City	38.0	84.3	53.4	46.2	39.2	72.2	47.2	42.1	38.4	84.2	53.9	48.1	40.0	87.5	58.3	52.7
Cumberland County	37.8	68.4	43.1	37.1	39.2	64.8	42.3	36.7	37.7	74.6	46.9	40.8	37.7	75.5	47.4	40.3
Harnett County	34.1	64.1	36.4	27.7	36.6	70.0	42.7	35.0	39.0	53.3	34.7	31.6	39.8	58.3	38.7	36.0
Hoke County	34.7	70.3	40.7	33.1	40.4	48.4	32.6	30.5	41.4	52.6	36.3	34.8	41.3	64.5	44.4	42.3
Lee County	36.3	62.0	37.5	33.6	38.1	74.0	47.0	43.6	40.7	88.5	60.1	55.9	39.9	76.3	50.7	46.2
Montgomery County	37.3	79.0	49.1	41.8	39.3	76.0	49.8	44.5	38.5	78.8	50.6	43.5	37.9	72.3	45.7	41.4
Moore County	38.8	59.0	38.2	35.2	37.8	60.3	38.0	33.5	37.4	65.9	41.1	37.4	37.7	61.4	38.6	34.4
Richmond County	32.2	47.1	25.3	18.2	36.4	54.3	32.9	27.0	35.9	72.4	43.3	35.0	35.2	71.8	42.2	33.7
Robeson County	32.1	54.8	29.3	20.0	35.8	44.6	26.6	21.5	35.4	38.0	22.4	17.6	37.3	44.4	27.6	23.7
Fairmont City	30.2	52.3	26.3	16.2	34.3	63.1	36.1	24.8	33.1	76.6	42.3	31.1	37.1	52.9	32.7	26.2
Lumberton City	36.8	65.9	40.4	32.5	34.6	78.7	45.3	32.1	37.0	80.1	49.4	40.9	35.3	82.1	48.4	38.5
Red Springs	32.7	69.8	38.0	27.4	29.4	71.2	34.9	18.9	27.8	56.9	26.4	13.6	29.7	66.2	32.8	21.3
Saint Pauls City	37.3	47.6	29.6	26.6	42.0	54.2	37.9	34.7	41.6	42.2	29.3	27.1	38.1	76.7	48.7	41.6
Scotland County	37.0	71.6	44.2	37.2	41.2	65.7	45.2	40.9	39.0	77.1	50.1	45.3	40.0	61.4	41.0	37.9

Note: *Percent of class* is an estimate of Algebra I participation calculated by dividing the total number of Algebra I students by the number of students in the ninth grade class. *Yield* is an index of the effectiveness of an Algebra I program which combines participation and performance. It is calculated by multiplying the percent of a class taking Algebra I by the percent of core items answer correctly and then multiplying by 100. *Effective yield* is a similar index which counts as 'participating' in Algebra I only those students whose achievement is estimated to be passing.

TABLE 10, cont'd.

North Carolina End-of-Course Testing Program
Core Performance, Participation Rate, Yield, and Effective Yield
Algebra I: 1986-1989

Region North Central

School System	1986				1987				1988				1989			
	Average Core	Percent of Class	Yield	Effective Yield	Average Core	Percent of Class	Yield	Effective Yield	Average Core	Percent of Class	Yield	Effective Yield	Average Core	Percent of Class	Yield	Effective Yield
Alamance County	35.5	61.9	36.6	30.6	38.7	66.3	42.7	37.3	39.9	63.5	42.3	39.2	37.1	71.3	44.1	35.9
Burlington City	38.1	78.2	49.7	42.8	37.9	94.1	59.5	49.6	40.7	67.6	45.9	41.2	41.1	77.5	53.1	48.1
Caswell County	35.8	41.3	24.6	19.3	35.3	55.8	32.8	25.3	34.9	65.2	37.9	29.3	34.0	65.4	37.1	28.6
Chatham County	39.0	54.5	35.4	32.7	39.5	60.7	40.0	35.3	41.5	57.3	39.7	36.3	44.5	71.8	53.2	52.1
Davidson County	34.1	68.8	39.1	29.6	35.3	65.6	38.6	29.1	36.3	67.3	40.8	33.5	37.9	72.7	45.9	38.6
Lexington City	36.4	59.9	36.3	29.2	37.3	75.5	46.9	41.3	36.6	61.0	37.3	32.4	35.7	72.1	42.9	33.1
Thomasville City	38.5	49.8	32.0	26.4	42.6	42.9	30.4	27.9	39.3	68.5	44.9	41.2	39.0	66.3	43.1	38.7
Forsyth County	40.6	62.7	42.4	39.1	42.5	60.4	42.8	40.4	42.1	70.1	49.2	46.3	41.9	70.8	49.4	46.8
Guilford County	40.0	65.7	43.8	40.3	42.2	68.0	47.8	45.1	41.0	67.6	46.2	42.8	42.0	79.8	55.9	52.2
Greensboro City	36.6	92.9	56.7	48.0	38.5	80.2	51.5	43.9	38.4	83.8	53.6	45.9	38.7	93.1	60.1	51.2
High Point City	35.6	58.9	34.9	29.0	38.0	49.5	31.3	27.2	40.8	50.0	34.0	31.4	39.4	61.3	40.3	36.5
Orange County	35.3	68.0	40.0	32.4	35.6	81.5	48.4	34.8	38.2	84.0	53.5	46.6	38.6	64.5	41.5	38.6
Chapel Hill City	47.7	83.7	66.5	65.6	50.2	81.6	68.2	68.2	49.8	85.2	70.7	69.6	50.5	93.6	78.8	78.3
Person County	37.6	75.2	47.1	41.4	39.9	68.5	45.6	39.8	37.7	70.7	44.4	36.8	40.5	75.9	51.3	45.8
Randolph County	37.0	49.4	30.5	25.6	38.8	64.2	41.5	35.8	38.1	55.9	35.5	31.8	41.6	50.8	35.2	33.2
Asheboro City	41.3	66.3	45.6	42.6	40.7	78.9	53.6	50.2	40.6	68.7	46.5	43.5	41.1	85.3	58.4	54.4
Rockingham County	39.9	62.3	41.4	38.2	39.9	71.0	47.2	40.7	38.7	79.7	51.4	47.0	39.7	60.0	39.7	35.4
Eden City	39.1	68.7	44.8	40.9	42.7	59.2	42.1	41.0	40.6	75.3	51.0	47.4	40.5	66.5	44.9	41.7
West. Rockingham	39.3	47.5	31.1	28.3	39.6	57.3	37.9	33.9	39.1	63.0	41.1	37.4	37.7	63.0	39.6	32.4
Reidsville City	36.4	94.5	57.3	50.0	38.5	66.4	42.6	38.5	37.0	71.8	44.3	39.9	38.6	68.1	43.8	40.5
Stokes County	39.2	55.0	35.9	32.5	39.1	59.7	38.9	34.4	40.0	52.5	35.0	32.6	38.9	68.8	44.6	38.6

Note: *Percent of class* is an estimate of Algebra I participation calculated by dividing the total number of Algebra I students by the number of students in the ninth grade class. *Yield* is an index of the effectiveness of an Algebra I program which combines participation and performance. It is calculated by multiplying the percent of a class taking Algebra I by the percent of core items answer correctly and then multiplying by 100. *Effective yield* is a similar index which counts as 'participating' in Algebra I only those students whose achievement is estimated to be passing.

TABLE 10, cont'd.

North Carolina End-of-Course Testing Program
Core Performance, Participation Rate, Yield, and Effective Yield
Algebra I: 1986-1989

Region Southwest

School System	1986				1987				1988				1989			
	Average Core	Percent of Class	Yield	Effective Yield	Average Core	Percent of Class	Yield	Effective Yield	Average Core	Percent of Class	Yield	Effective Yield	Average Core	Percent of Class	Yield	Effective Yield
Anson County	35.8	70.7	42.2	34.4	35.7	53.0	31.6	24.4	34.8	66.2	38.4	30.0	33.5	58.6	32.7	22.2
Cabarrus County	39.0	70.1	45.6	41.5	39.8	71.9	47.7	44.0	39.3	80.1	52.4	47.7	39.8	73.7	48.9	45.0
Kannapolis City	33.2	45.7	25.3	18.7	31.6	66.9	35.3	21.7	34.0	73.4	41.6	30.6	32.7	75.9	41.4	29.0
Cleveland County	38.9	63.4	41.1	35.8	40.8	58.1	39.5	35.4	39.9	57.0	37.9	33.5	38.8	59.1	38.2	32.1
Kings Mountain City	37.6	63.7	39.9	35.7	37.9	70.4	44.5	38.7	38.6	53.2	34.3	30.7	39.4	72.6	47.6	41.7
Shelby City	34.9	78.5	45.7	35.7	38.6	81.5	52.4	44.1	37.7	72.7	45.6	39.2	39.0	67.0	43.6	37.3
Gaston County	35.1	62.7	36.7	29.5	36.3	65.7	39.7	31.8	35.6	63.2	37.5	29.6	37.0	71.7	44.2	37.2
Lincoln County	36.3	64.9	39.3	30.9	37.2	54.4	33.8	27.8	36.3	68.6	41.5	33.8	35.9	83.7	50.0	41.6
Mecklenburg County	37.9	72.3	45.7	39.1	37.8	78.5	49.4	40.5	37.6	73.1	45.8	38.4	39.8	81.0	53.7	47.1
Rowan County	37.9	69.7	44.0	38.4	37.4	72.4	45.2	38.0	37.3	67.8	42.1	35.0	39.3	70.8	46.1	41.9
Salisbury City	38.9	77.7	50.4	46.4	40.8	78.5	53.4	50.1	39.8	64.3	42.6	37.5	42.2	81.5	57.4	50.1
Stanly County	36.9	73.0	44.9	39.9	36.5	76.8	46.7	36.9	39.9	66.3	44.1	40.3	40.0	79.3	52.9	48.5
Albemarle City	37.3	44.5	27.7	23.8	41.9	59.1	41.2	37.4	40.1	76.3	51.0	47.2	39.7	72.9	48.2	41.4
Union County	38.9	48.3	31.3	28.0	41.4	48.1	33.2	30.9	40.8	50.5	34.4	31.6	41.9	55.8	39.0	36.4
Monroe City	36.6	45.4	27.7	23.0	39.6	52.7	34.8	32.2	36.6	53.6	32.7	26.6	38.4	68.8	44.0	40.2

Note: *Percent of class* is an estimate of Algebra I participation calculated by dividing the total number of Algebra I students by the number of students in the ninth grade class. *Yield* is an index of the effectiveness of an Algebra I program which combines participation and performance. It is calculated by multiplying the percent of a class taking Algebra I by the percent of core items answer correctly and then multiplying by 100. *Effective yield* is a similar index which counts as 'participating' in Algebra I only those students whose achievement is estimated to be passing.

TABLE 10, cont'd.

North Carolina End-of-Course Testing Program
Core Performance, Participation Rate, Yield, and Effective Yield
Algebra I: 1986-1989

Region Northwest

School System	1986				1987				1988				1989			
	Average Core	Percent of Class	Yield	Effective Yield	Average Core	Percent of Class	Yield	Effective Yield	Average Core	Percent of Class	Yield	Effective Yield	Average Core	Percent of Class	Yield	Effective Yield
Alexander County	37.6	85.0	53.3	48.8	38.3	75.8	48.4	42.2	36.7	86.1	52.7	43.9	38.9	64.2	41.6	36.8
Alleghany County	35.1	61.8	36.2	30.4	36.2	50.0	30.2	24.4	32.7	81.2	44.2	32.4	37.0	56.6	34.9	30.1
Ashe County	38.7	57.5	37.1	33.8	42.1	55.4	38.9	36.4	42.0	58.0	40.6	36.5	43.4	50.1	36.2	35.8
Avery County	34.0	56.5	32.0	25.9	36.3	57.9	35.0	27.9	34.2	65.6	37.4	27.1	35.5	66.4	39.3	29.3
Burke County	36.3	65.9	39.9	33.2	38.8	64.8	41.9	37.5	40.5	65.5	44.3	41.8	41.2	64.4	44.3	41.6
Caldwell County	38.7	66.7	43.0	36.2	41.3	52.1	35.9	32.4	40.7	56.2	36.1	34.8	40.5	53.7	36.2	33.3
Catawba County	42.3	64.4	45.4	42.3	43.3	60.3	43.5	41.4	43.6	57.2	41.6	40.4	43.8	61.8	45.1	43.9
Hickory City	41.5	64.6	44.7	42.3	40.7	63.9	43.3	39.7	41.9	78.7	55.0	52.6	41.0	73.3	50.1	46.9
Newton City	38.3	73.7	47.0	42.3	39.1	84.5	55.1	48.1	39.9	73.4	48.8	43.6	40.3	67.6	45.4	43.2
Davie County	38.1	62.2	39.5	33.2	40.2	61.6	41.3	37.0	39.7	69.9	46.3	40.8	40.8	77.6	52.7	45.9
Iredell County	34.4	71.8	41.2	31.8	35.4	66.8	39.4	30.5	34.4	83.9	48.2	36.6	36.5	57.4	35.0	28.5
Mooresville City	39.9	66.8	44.4	43.1	39.3	80.4	52.6	48.1	39.9	57.0	37.9	34.4	41.0	78.1	53.3	49.8
Statesville City	38.1	64.1	40.7	34.2	41.0	48.4	33.1	30.5	40.2	60.9	40.8	36.6	39.4	59.6	39.2	33.5
Surry County	37.7	52.9	33.2	29.1	37.5	53.6	33.5	29.3	41.0	65.4	44.7	42.5	40.6	69.6	47.1	44.3
Elkin City	34.1	77.7	44.2	38.6	34.0	69.9	39.6	28.6	40.8	96.1	65.4	62.7	42.8	92.9	66.2	61.1
Mount Airy City	35.3	76.6	45.1	33.8	42.0	57.2	40.0	35.9	42.8	74.5	53.2	50.1	44.5	99.2	73.6	70.7
Watauga County	45.9	51.9	39.7	39.5	46.3	54.2	41.9	41.9	44.8	68.0	50.8	49.8	46.2	72.9	56.1	54.3
Wilkes County	34.5	55.7	32.0	25.8	37.1	59.3	36.7	31.4	35.8	57.1	34.0	29.6	38.2	65.5	41.7	37.2
Yadkin County	35.4	48.7	28.7	23.2	37.6	59.7	37.4	32.4	38.6	59.7	38.4	34.1	39.6	63.2	41.7	37.9

Note: *Percent of class* is an estimate of Algebra I participation calculated by dividing the total number of Algebra I students by the number of students in the ninth grade class. *Yield* is an index of the effectiveness of an Algebra I program which combines participation and performance. It is calculated by multiplying the percent of a class taking Algebra I by the percent of core items answer correctly and then multiplying by 100. *Effective yield* is a similar index which counts as 'participating' in Algebra I only those students whose achievement is estimated to be passing.

TABLE 10, cont'd.

North Carolina End-of-Course Testing Program
Core Performance, Participation Rate, Yield, and Effective Yield
Algebra I: 1986-1989

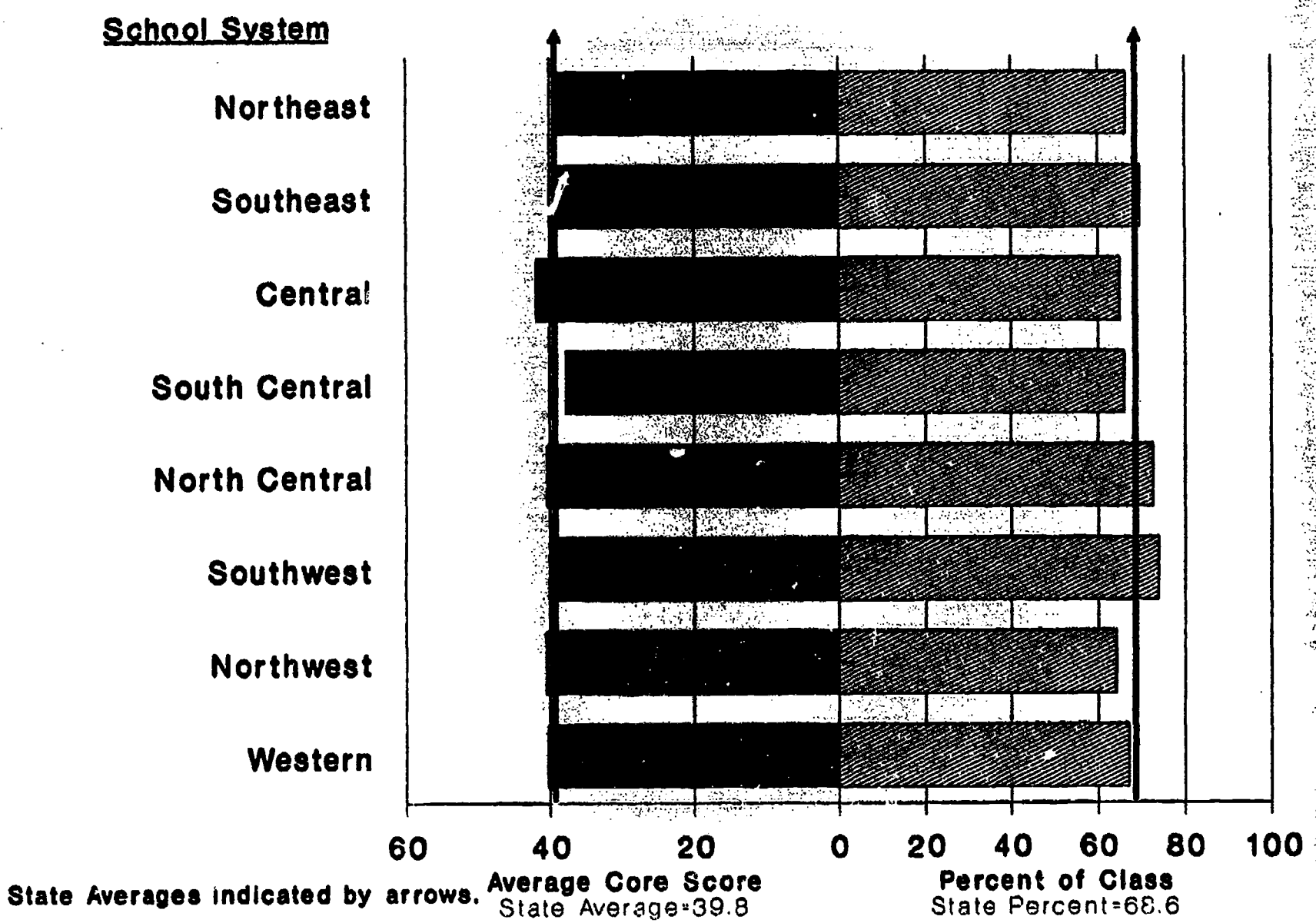
Region Western

School System	1986				1987				1988				1989			
	Average Core	Percent of Class	Yield	Effective Yield	Average Core	Percent of Class	Yield	Effective Yield	Average Core	Percent of Class	Yield	Effective Yield	Average Core	Percent of Class	Yield	Effective Yield
Buncombe County	39.7	59.6	39.4	34.6	41.4	70.7	48.8	44.8	40.5	66.7	45.0	40.6	42.0	72.2	50.5	47.2
Asheville City	39.7	77.9	51.5	47.0	40.1	76.4	51.0	44.0	42.9	68.2	48.8	43.0	42.3	70.1	49.4	45.4
Cherokee County	37.6	59.9	37.5	33.0	37.2	59.4	36.8	31.2	41.9	55.6	38.8	35.5	42.9	58.9	42.1	39.1
Clay County	33.8	71.4	40.2	31.7	39.6	47.1	31.1	28.0	39.9	53.4	35.5	32.7	36.8	100.0	61.4	55.0
Graham County	39.6	48.9	32.3	28.2	41.8	56.5	39.4	33.8	37.5	77.0	48.1	36.3	37.9	86.9	54.9	49.0
Haywood County	40.7	60.7	41.2	38.6	41.3	66.3	45.6	42.4	39.0	72.6	47.2	42.5	39.2	78.9	51.6	46.5
Henderson County	37.9	67.1	42.4	37.0	41.3	60.9	41.9	38.1	41.6	62.4	43.3	39.5	43.6	65.7	47.7	44.4
Hendersonville City	36.3	88.2	53.4	47.0	38.4	89.1	57.0	50.0	38.2	85.2	54.2	45.6	38.9	99.4	64.4	55.6
Jackson County	39.4	74.1	48.7	43.5	39.1	87.0	56.7	53.4	38.2	63.3	40.3	35.1	40.5	70.6	47.6	45.4
Macon County	40.0	51.5	34.3	31.4	41.3	55.2	38.0	35.3	39.7	66.1	43.8	40.0	41.2	50.3	34.6	33.4
Madison County	43.5	52.1	37.8	36.1	39.5	51.9	34.2	29.8	40.2	49.0	32.8	29.3	38.3	44.1	28.2	22.8
McDowell County	33.0	58.1	32.0	22.7	39.2	53.6	35.1	30.3	39.1	71.2	46.4	42.1	37.9	59.9	37.8	35.1
Mitchell County	35.9	78.2	46.8	38.4	37.1	87.2	53.9	44.1	34.4	91.4	52.4	39.3	35.8	72.9	43.5	35.7
Polk County	37.6	51.9	32.5	26.4	36.6	39.0	23.8	21.2	36.2	57.3	34.5	27.7	39.0	60.9	39.6	37.6
Tryon City	37.0	75.4	46.5	39.4	41.2	56.9	39.1	38.2	37.1	90.0	55.7	49.5				
Rutherford County	39.5	56.3	37.1	33.0	40.5	57.2	38.6	35.7	40.7	50.5	34.2	32.1	40.2	51.1	34.2	31.4
Swain County	37.5	46.0	28.8	27.5	38.7	44.3	28.5	25.5	38.4	68.0	43.5	40.1	34.1	50.8	51.6	39.4
Transylvania County	41.2	62.9	43.2	41.1	43.6	63.9	46.4	42.7	43.1	78.5	56.4	53.1	39.1	71.8	46.8	39.4
Yancey County	33.6	94.9	53.1	38.6	36.7	74.2	45.4	35.9	36.5	44.3	26.9	21.4	36.8	58.7	36.0	30.5

Note: *Percent of class* is an estimate of Algebra I participation calculated by dividing the total number of Algebra I students by the number of students in the ninth grade class. *Yield* is an index of the effectiveness of an Algebra I program which combines participation and performance. It is calculated by multiplying the percent of a class taking Algebra I by the percent of core items answer correctly and then multiplying by 100. *Effective yield* is a similar index which counts as 'participating' in Algebra I only those students whose achievement is estimated to be passing.

Figure 16

Algebra I Core Scores and Participation Rates by Region--1989



State Averages indicated by arrows.

Figure 17

Algebra I Core Scores and Participation Rates in the Northeast Region--1989

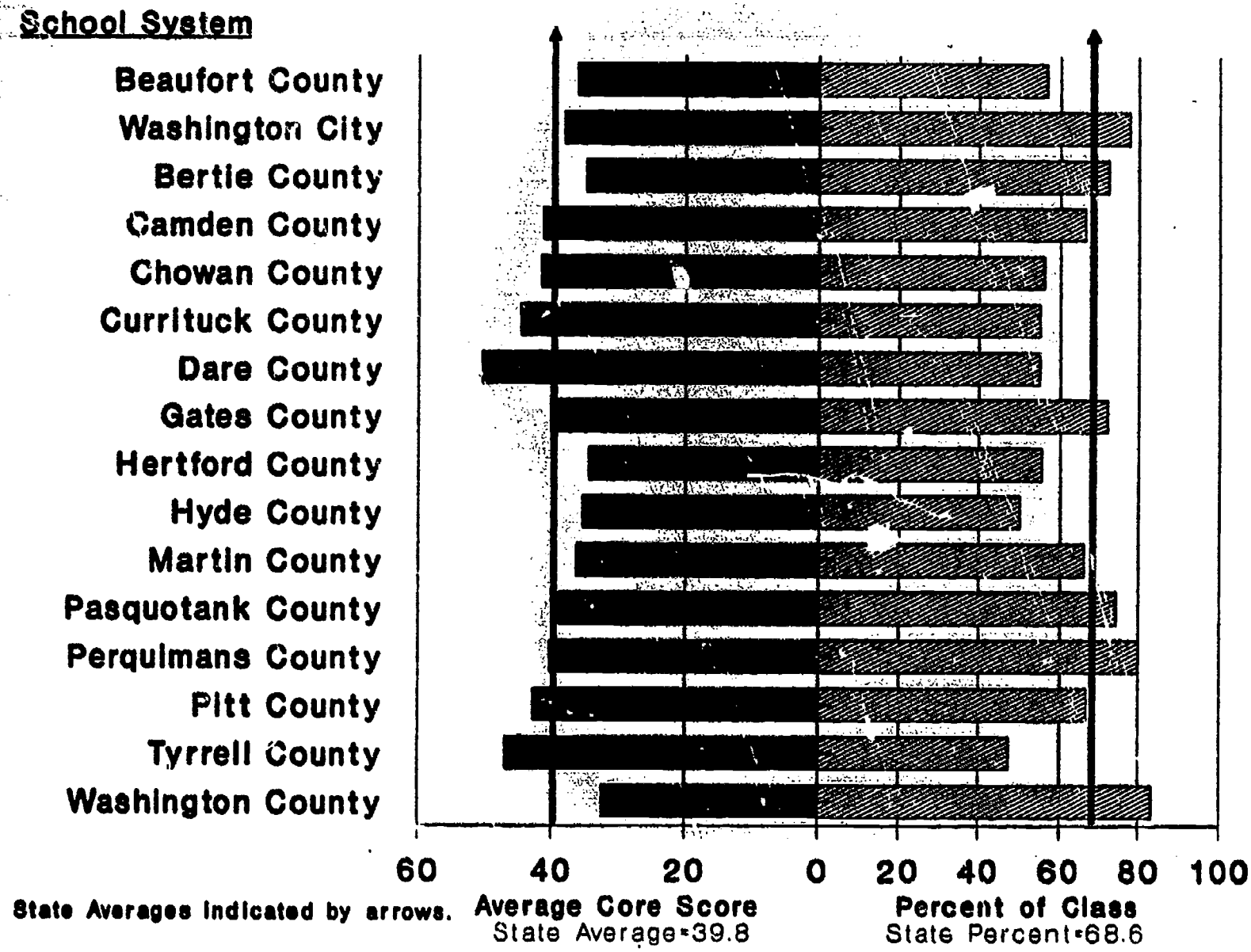


Figure 18

Algebra I Core Scores and Participation Rates in the Southeast Region--1989

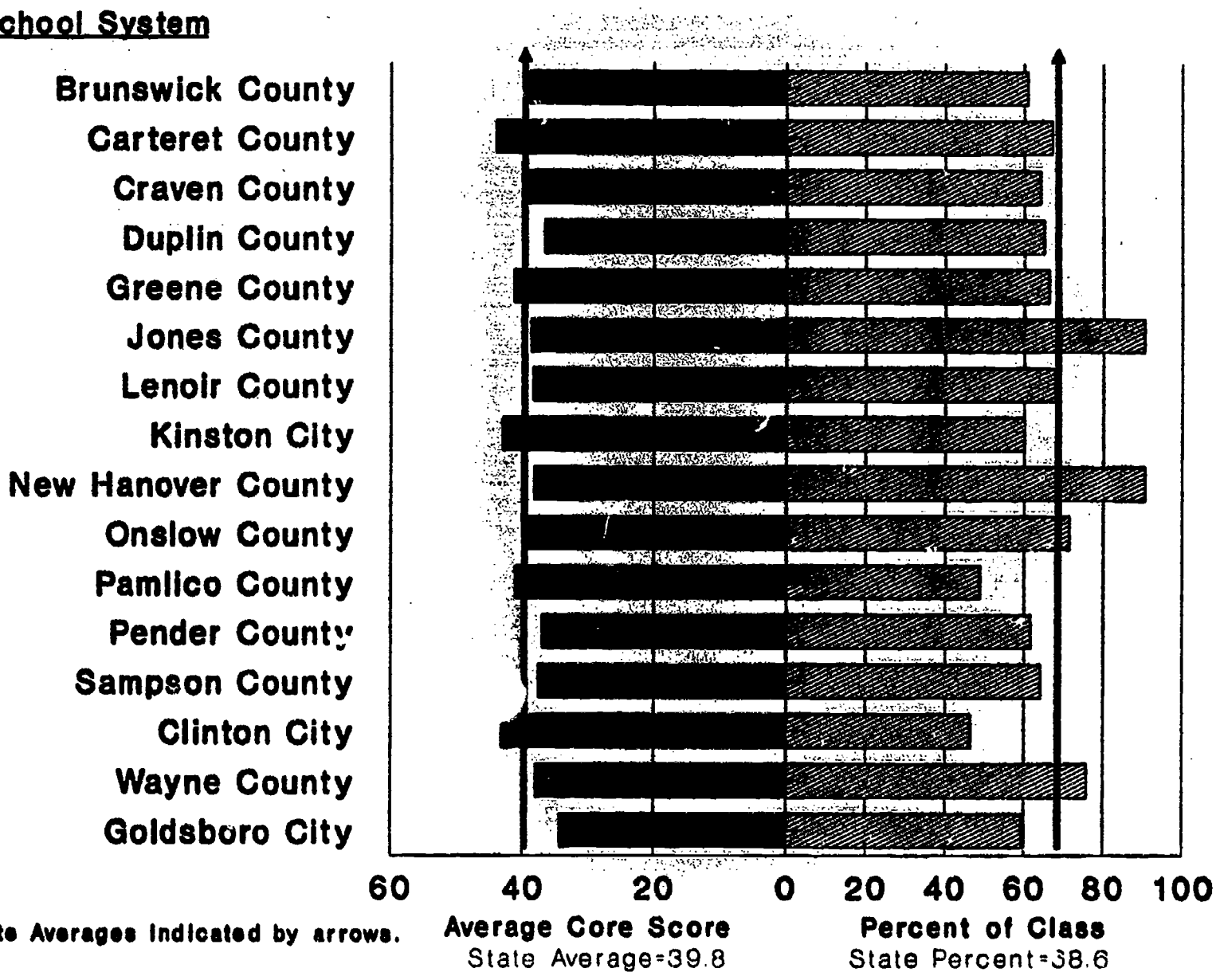
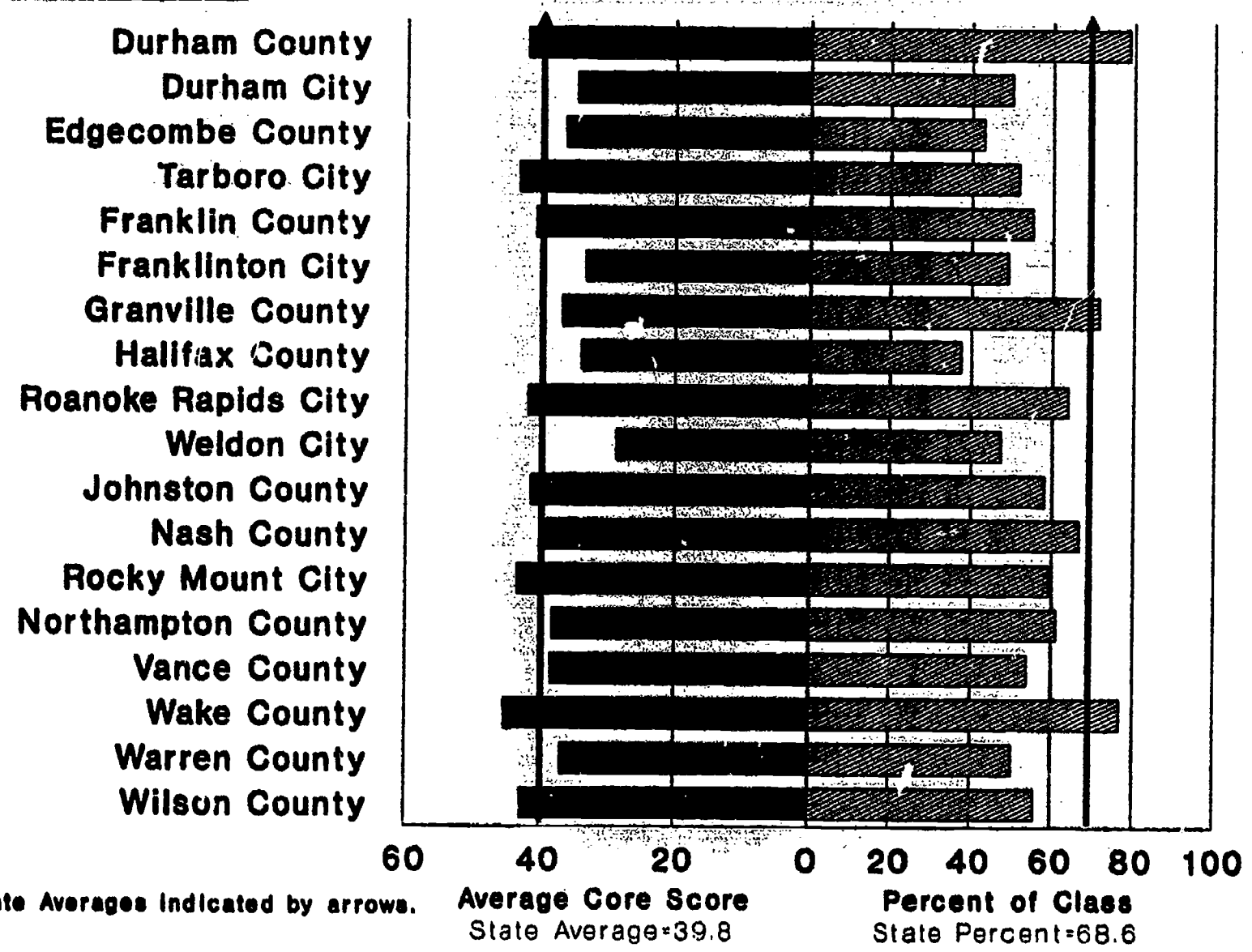


Figure 19

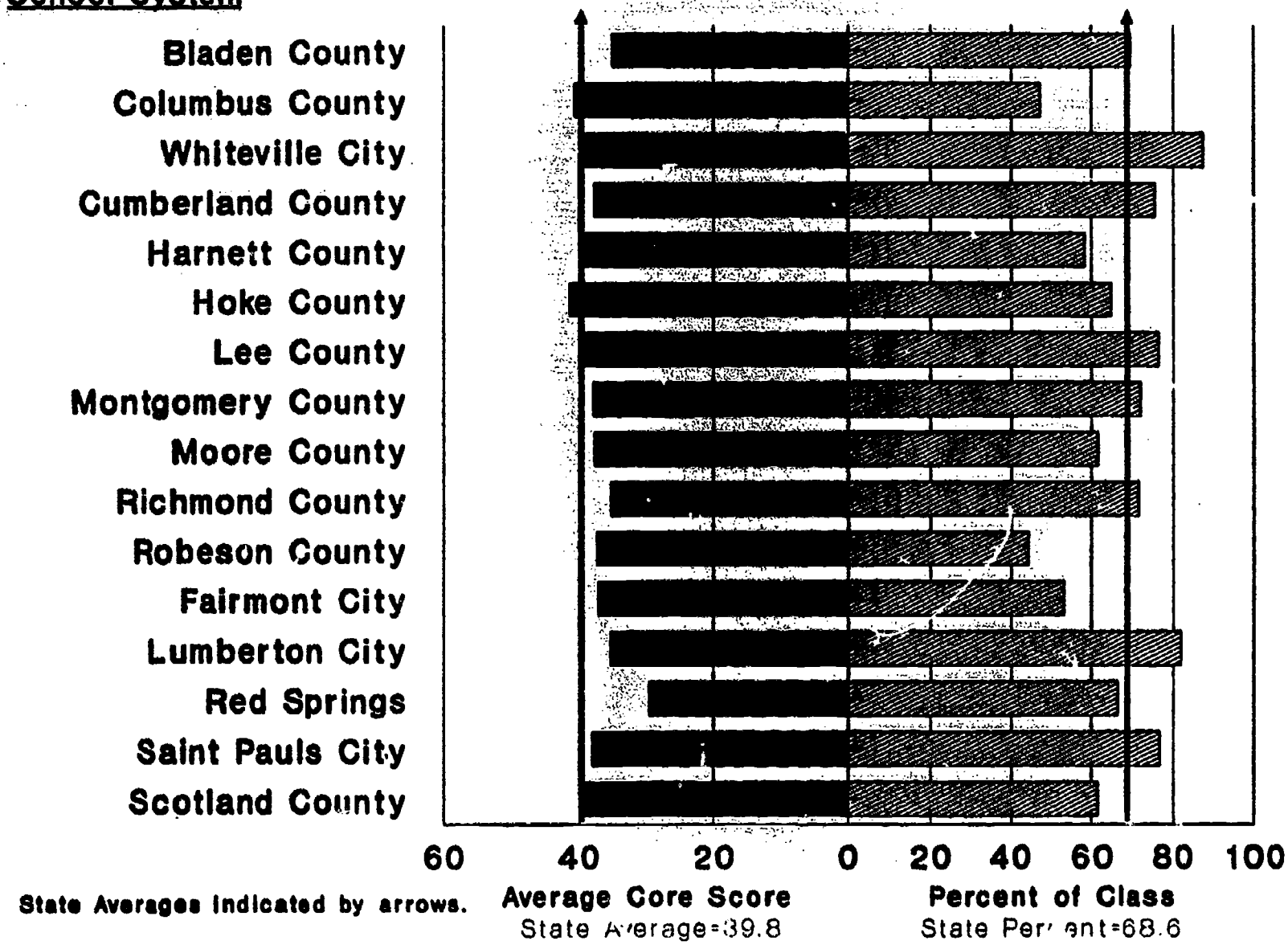
Algebra I Core Scores and Participation Rates in the Central Region--1989



State Averages indicated by arrows.

Figure 20

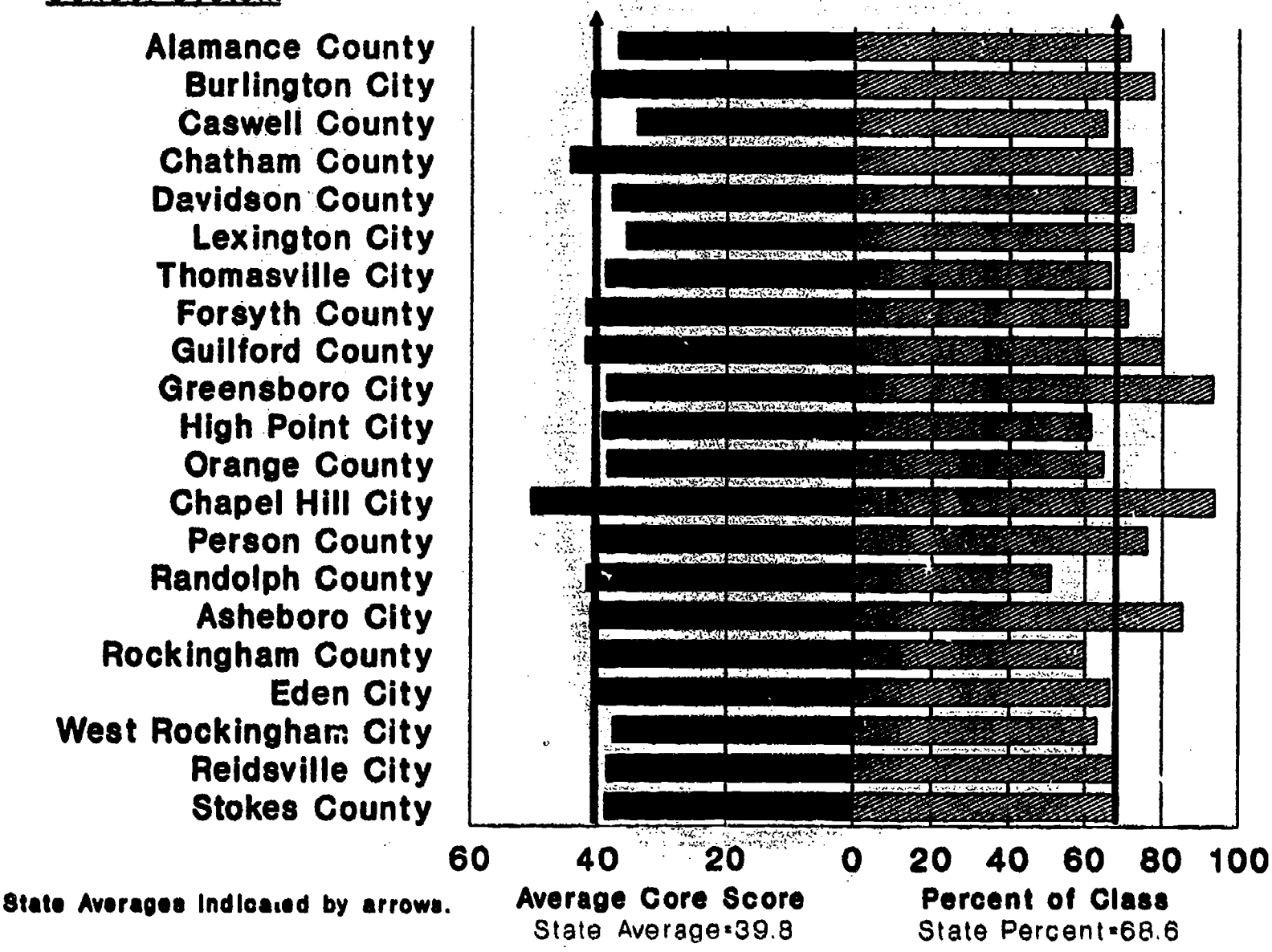
Algebra I Core Scores and Participation Rates in the South Central Region--1989



State Averages indicated by arrows.

Figure 21

Algebra I Core Scores and Participation Rates in the North Central Region--1989



State Averages Indicated by arrows.

Figure 22
Algebra I Core Scores and Participation Rates in the Southwest Region--1989

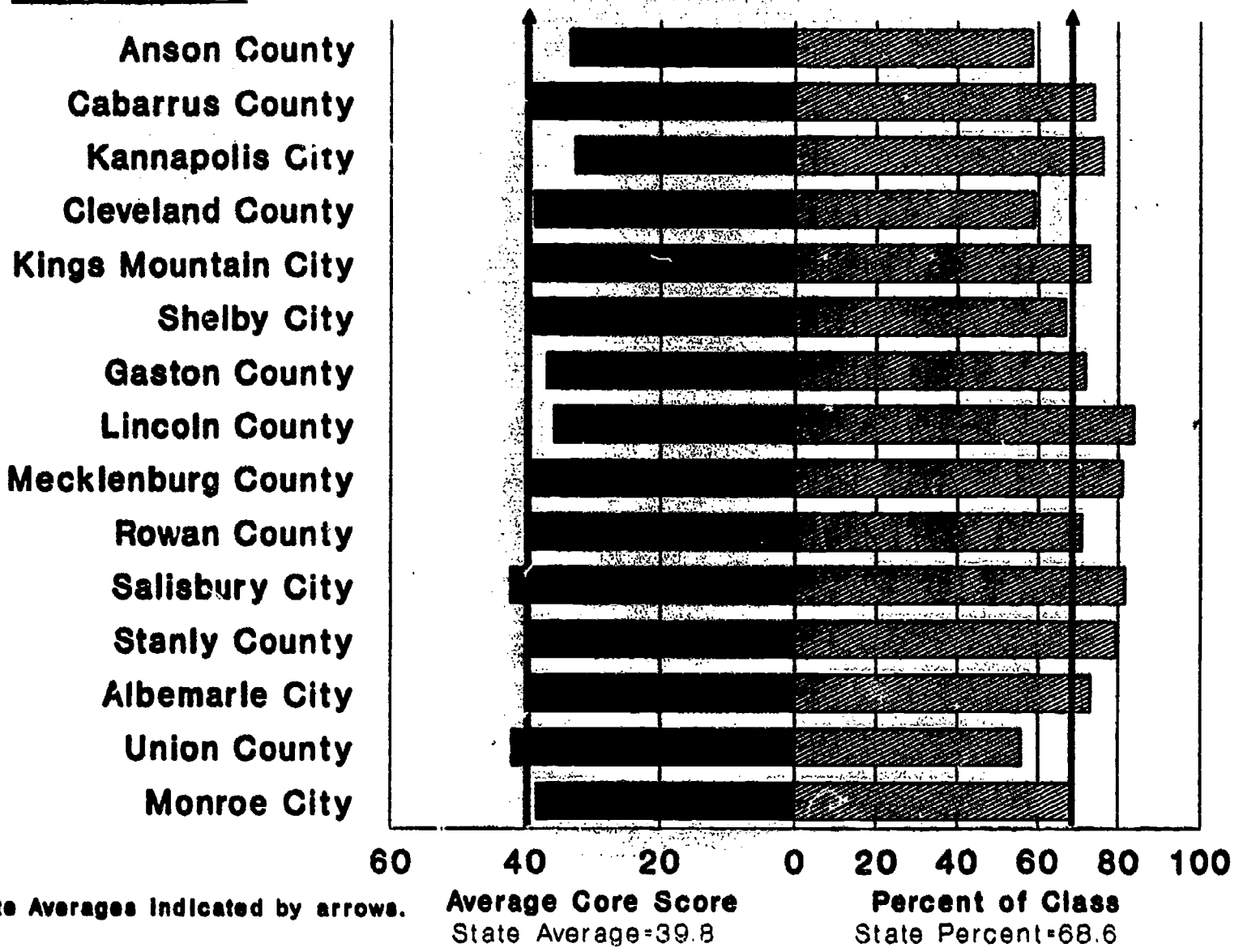


Figure 23

Algebra 1 Core Scores and Participation Rates in the Northwest Region--1989

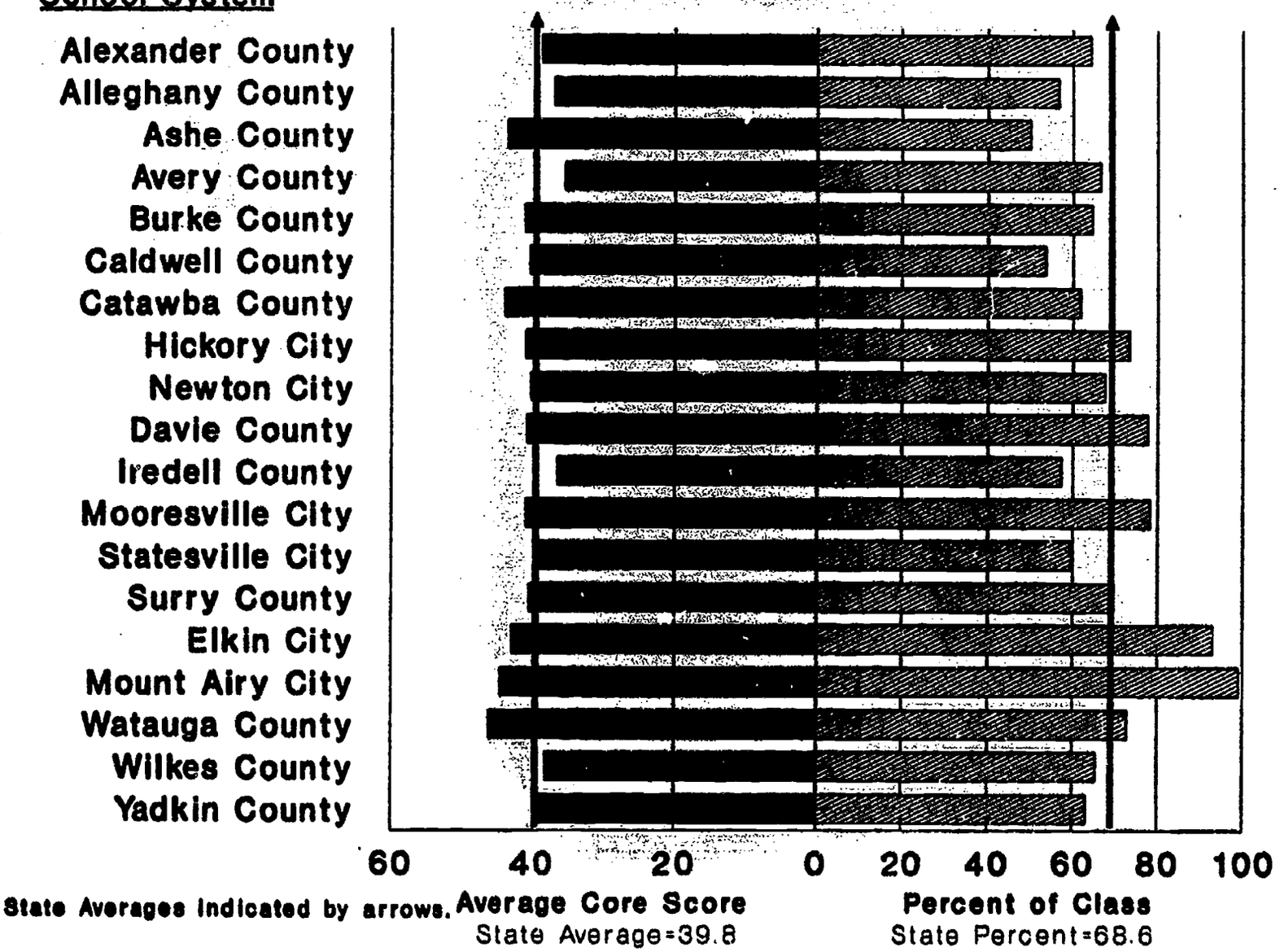


Figure 24

Algebra I Core Scores and Participation Rates in the Western Region--1989

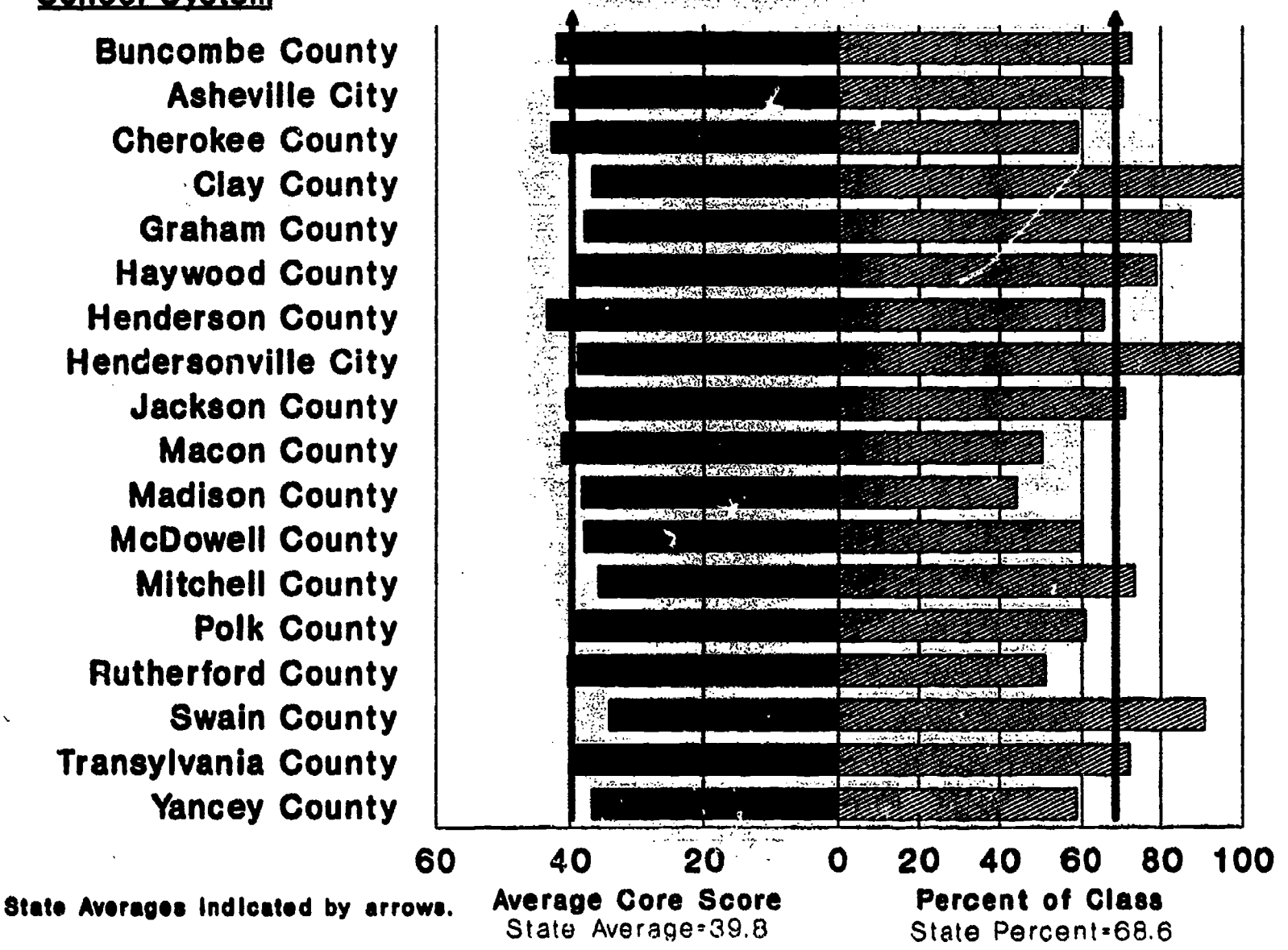


TABLE 11

Selected Characteristics of Algebra I Students in Public School Systems: 1989

REGION NORTHEAST

	NUMBER TESTED	PERCENT OF CLASS	PERCENT OF EIGHTH GRADE	PERCENT OF NINTH GRADE	PERCENT BLACK	PERCENT ALGEBRA I BLACK	PERCENT LESS THAN HS EDUC	PERCENT ALGEBRA I LESS THAN HS EDUC
BEAUFORT COUNTY	189	56.9	0.0	40.4	42.1	33.5	11.5	11.2
WASHINGTON CITY	215	77.6	6.3	29.2	43.8	41.4	20.8	10.0
BERTIE COUNTY	300	72.1	12.6	24.8	76.8	73.1	32.0	18.4
CAMDEN COUNTY	56	66.7	9.8	33.3	30.7	17.9	11.1	7.1
CHOWAN COUNTY	120	56.3	13.5	18.8	50.7	36.1	13.7	8.5
CURRITUCK COUNTY	109	55.3	13.5	10.7	14.5	18.5	23.4	13.1
DARE COUNTY	130	55.3	8.2	23.4	5.2	3.9	10.9	7.1
GATES COUNTY	76	71.7	8.1	22.6	55.3	59.2	15.7	14.7
HERTFORD COUNTY	220	55.8	11.2	17.8	74.2	70.5	21.7	14.4
HYDE COUNTY	35	50.0	0.0	37.1	47.3	35.3	5.6	11.8
MARTIN COUNTY	334	66.4	6.4	34.6	55.1	52.3	21.6	14.5
PASQUOTANK COUNTY	309	73.9	11.3	38.0	45.4	40.7	10.5	12.5
PERQUIMANS COUNTY	104	80.0	0.0	33.1	43.5	33.7	16.7	11.7
PITT COUNTY	929	67.1	17.6	22.3	50.1	38.2	16.4	10.3
TYRRELL COUNTY	28	47.5	0.0	39.0	50.1	21.4	20.7	10.7
WASHINGTON COUNTY	182	83.1	9.0	37.4	61.1	56.6	24.1	16.6

NOTE: NUMBER TESTED IS THE NUMBER OF STUDENTS WHO TOOK THE ALGEBRA I TEST. PERCENT OF CLASS IS THE TOTAL NUMBER OF ALGEBRA I STUDENTS DIVIDED BY THE NUMBER OF STUDENTS IN THE NINTH GRADE CLASS. IT IS AN ESTIMATE OF THE PERCENT OF A COHORT OR CLASS OF STUDENTS WHO WILL TAKE ALGEBRA I BEFORE LEAVING HIGH SCHOOL. PERCENT OF EIGHTH GRADE IS THE PERCENT OF EIGHTH GRADE STUDENTS TAKING ALGEBRA I. PERCENT OF NINTH GRADE IS THE PERCENT OF NINTH GRADE STUDENTS TAKING ALGEBRA I. PERCENT BLACK IS THE PERCENT OF TOTAL ENROLLMENT THAT IS BLACK. PERCENT ALGEBRA I BLACK IS THE PERCENT OF ALGEBRA I STUDENTS THAT IS BLACK. PERCENT LESS THAN HS EDUC IS THE PERCENT OF EIGHTH GRADE STUDENTS TAKING THE CALIFORNIA ACHIEVEMENT TEST IN 1989 WHOSE PARENTS HAVE LESS THAN A HIGH SCHOOL EDUCATION. PERCENT ALGEBRA I LESS THAN HS EDUC IS THE PERCENT OF ALGEBRA I STUDENTS WHOSE PARENTS HAVE LESS THAN A HIGH SCHOOL EDUCATION.

TABLE 11, cont'd

REGION SOUTHEAST

	NUMBER TESTED	PERCENT OF CLASS	PERCENT OF EIGHTH GRADE	PERCENT OF NINTH GRADE	PERCENT BLACK	PERCENT ALGEBRA I BLACK	PERCENT LESS THAN HS EDUC	PERCENT ALGEBRA I LESS THAN HS EDUC
BRUNSWICK COUNTY	492	61.0	18.3	20.1	26.9	27.5	14.2	9.4
CARTERET COUNTY	414	67.0	10.6	23.0	13.3	14.8	15.4	6.1
NEW BERN-CRAVEN	717	64.0	8.8	30.0	36.7	29.2	9.2	8.6
DUPLIN COUNTY	407	64.9	16.4	24.1	43.4	35.8	12.3	9.5
GREENE COUNTY	156	66.1	4.2	24.6	60.9	56.4	39.3	14.8
JONES COUNTY	105	90.5	7.8	34.5	53.7	54.3	12.5	8.7
LENOIR COUNTY	378	67.6	15.5	30.1	33.4	31.0	17.3	9.3
KINSTON CITY	247	60.2	6.8	16.3	77.1	71.0	17.9	6.2
NEW HANOVER COUNTY	1352	90.6	22.5	31.7	30.7	26.7	10.8	6.2
ONSLOW COUNTY	925	71.4	3.6	28.8	23.5	24.9	11.3	8.9
PAMLICO COUNTY	91	48.7	0.7	33.2	35.8	34.1	7.1	12.1
PENDER COUNTY	240	61.7	2.6	22.9	42.4	42.3	14.8	10.9
SAMPSON COUNTY	386	64.0	6.0	39.0	39.5	35.5	12.8	11.0
CLINTON CITY	117	46.6	7.1	16.7	48.0	40.2	8.5	4.6
WAYNE COUNTY	769	76.0	13.9	21.0	29.1	24.2	15.3	5.6
GOLDSBORO CITY	185	59.5	4.6	20.3	82.3	84.9	12.3	6.5

NOTE: NUMBER TESTED IS THE NUMBER OF STUDENTS WHO TOOK THE ALGEBRA I TEST. PERCENT OF CLASS IS THE TOTAL NUMBER OF ALGEBRA I STUDENTS DIVIDED BY THE NUMBER OF STUDENTS IN THE NINTH GRADE CLASS. IT IS AN ESTIMATE OF THE PERCENT OF A COHORT OR CLASS OF STUDENTS WHO WILL TAKE ALGEBRA I BEFORE LEAVING HIGH SCHOOL. PERCENT OF EIGHTH GRADE IS THE PERCENT OF EIGHTH GRADE STUDENTS TAKING ALGEBRA I. PERCENT OF NINTH GRADE IS THE PERCENT OF NINTH GRADE STUDENTS TAKING ALGEBRA I. PERCENT BLACK IS THE PERCENT OF TOTAL ENROLLMENT THAT IS BLACK. PERCENT ALGEBRA I BLACK IS THE PERCENT OF ALGEBRA I STUDENTS THAT IS BLACK. PERCENT LESS THAN HS EDUC IS THE PERCENT OF EIGHTH GRADE STUDENTS TAKING THE CALIFORNIA ACHIEVEMENT TEST IN 1989 WHOSE PARENTS HAVE LESS THAN A HIGH SCHOOL EDUCATION. PERCENT ALGEBRA I LESS THAN HS EDUC IS THE PERCENT OF ALGEBRA I STUDENTS WHOSE PARENTS HAVE LESS THAN A HIGH SCHOOL EDUCATION.

TABLE 11, cont'd

REGION CENTRAL

	NUMBER TESTED	PERCENT OF CLASS	PERCENT OF EIGHTH GRADE	PERCENT OF NINTH GRADE	PERCENT BLACK	PERCENT ALGEBRA I BLACK	PERCENT LESS THAN HS EDUC	PERCENT ALGEBRA I LESS THAN HS EDUC
DURHAM COUNTY	1144	78.8	17.9	37.3	31.3	24.4	7.3	4.9
DURHAM CITY	331	49.8	10.5	22.3	90.4	89.0	18.7	9.5
EDGECOMBE COUNTY	216	43.1	0.0	16.4	59.3	58.6	25.6	13.7
TARBORO CITY	141	51.5	10.6	20.8	55.4	48.6	16.4	8.6
FRANKLIN COUNTY	237	55.0	18.6	16.2	43.2	28.3	11.0	10.6
FRANKLINTON CITY	62	48.8	21.9	19.7	61.4	53.2	44.3	18.0
GRANVILLE COUNTY	416	71.5	17.9	16.7	47.5	45.2	17.7	15.5
HALIFAX COUNTY	242	37.3	23.8	9.7	84.0	87.6	31.4	20.8
ROANOKE RAPIDS CITY	132	63.8	12.2	25.1	10.5	6.1	10.9	6.9
WELDON CITY	45	47.4	0.0	22.1	88.8	91.1	36.1	28.9
JOHNSTON COUNTY	702	58.1	12.2	26.8	25.2	20.0	16.5	9.4
NASH COUNTY	604	66.7	8.9	24.8	40.4	32.9	20.1	12.4
ROCKY MOUNT CITY	236	59.3	6.0	14.3	80.3	69.1	22.9	7.3
NORTHAMPTON COUNTY	198	60.9	14.4	23.7	79.7	76.8	27.2	20.0
VANCE COUNTY	281	53.9	6.1	16.1	57.2	49.8	23.8	14.7
WAKE COUNTY	3697	76.7	18.2	30.5	27.1	18.2	7.5	4.3
WARREN COUNTY	152	50.0	20.0	9.2	72.4	66.2	16.9	18.0
WILSON COUNTY	596	55.8	18.0	21.0	51.3	41.7	21.2	12.5

NOTE: NUMBER TESTED IS THE NUMBER OF STUDENTS WHO TOOK THE ALGEBRA I TEST. PERCENT OF CLASS IS THE TOTAL NUMBER OF ALGEBRA I STUDENTS DIVIDED BY THE NUMBER OF STUDENTS IN THE NINTH GRADE CLASS. IT IS AN ESTIMATE OF THE PERCENT OF A COHORT OR CLASS OF STUDENTS WHO WILL TAKE ALGEBRA I BEFORE LEAVING HIGH SCHOOL. PERCENT OF EIGHTH GRADE IS THE PERCENT OF EIGHTH GRADE STUDENTS TAKING ALGEBRA I. PERCENT OF NINTH GRADE IS THE PERCENT OF NINTH GRADE STUDENTS TAKING ALGEBRA I. PERCENT BLACK IS THE PERCENT OF TOTAL ENROLLMENT THAT IS BLACK. PERCENT ALGEBRA I BLACK IS THE PERCENT OF ALGEBRA I STUDENTS THAT IS BLACK. PERCENT LESS THAN HS EDUC IS THE PERCENT OF EIGHTH GRADE STUDENTS TAKING THE CALIFORNIA ACHIEVEMENT TEST IN 1989 WHOSE PARENTS HAVE LESS THAN A HIGH SCHOOL EDUCATION. PERCENT ALGEBRA I LESS THAN HS EDUC IS THE PERCENT OF ALGEBRA I STUDENTS WHOSE PARENTS HAVE LESS THAN A HIGH SCHOOL EDUCATION.

TABLE 11, cont'd

REGION SOUTH CENTRAL

	NUMBER TESTED	PERCENT OF CLASS	PERCENT OF EIGHTH GRADE	PERCENT OF NINTH GRADE	PERCENT BLACK	PERCENT ALGEBRA I BLACK	PERCENT LESS THAN HS EDUC	PERCENT ALGEBRA I LESS THAN HS EDUC
BLADEN COUNTY	341	69.7	6.0	36.4	50.8	49.0	15.6	13.1
COLUMBUS COUNTY	313	47.3	0.0	27.2	39.1	34.8	20.3	9.6
WHITEVILLE CITY	175	87.5	17.4	41.0	40.2	34.9	18.3	12.0
CUMBERLAND COUNTY	2553	75.5	9.9	22.8	40.6	40.3	10.2	7.1
HARNETT COUNTY	582	58.3	7.0	30.9	31.7	27.9	24.6	9.3
HOKE COUNTY	274	64.5	7.5	27.1	52.0	52.6	23.2	11.1
LEE COUNTY	415	76.3	10.2	25.2	31.2	26.0	15.5	6.1
MONTGOMERY COUNTY	256	72.3	32.0	16.4	36.7	29.4	26.8	18.1
MOORE COUNTY	450	61.4	8.8	26.5	29.4	22.8	15.6	9.9
RICHMOND COUNTY	506	71.8	15.0	22.3	39.6	34.4	15.6	11.6
ROBESON COUNTY	596	44.4	1.5	20.6	21.0	20.5	32.4	17.9
FAIRMONT CITY	81	52.9	3.0	31.4	49.9	37.0	17.0	15.0
LUMBERTON CITY	271	82.1	21.8	23.9	36.7	32.1	17.9	10.3
RED SPRINGS	100	66.2	0.0	29.1	45.1	43.9	20.2	15.0
SAINT PAULS CITY	89	76.7	0.0	29.3	43.3	45.9	1.2	23.8
SCOTLAND COUNTY	424	61.4	14.5	24.1	45.4	43.6	19.7	15.5

NOTE: NUMBER TESTED IS THE NUMBER OF STUDENTS WHO TOOK THE ALGEBRA I TEST. PERCENT OF CLASS IS THE TOTAL NUMBER OF ALGEBRA I STUDENTS DIVIDED BY THE NUMBER OF STUDENTS IN THE NINTH GRADE CLASS. IT IS AN ESTIMATE OF THE PERCENT OF A COHORT OR CLASS OF STUDENTS WHO WILL TAKE ALGEBRA I BEFORE LEAVING HIGH SCHOOL. PERCENT OF EIGHTH GRADE IS THE PERCENT OF EIGHTH GRADE STUDENTS TAKING ALGEBRA I. PERCENT OF NINTH GRADE IS THE PERCENT OF NINTH GRADE STUDENTS TAKING ALGEBRA I. PERCENT BLACK IS THE PERCENT OF TOTAL ENROLLMENT THAT IS BLACK. PERCENT ALGEBRA I BLACK IS THE PERCENT OF ALGEBRA I STUDENTS THAT IS BLACK. PERCENT LESS THAN HS EDUC IS THE PERCENT OF EIGHTH GRADE STUDENTS TAKING THE CALIFORNIA ACHIEVEMENT TEST IN 1989 WHOSE PARENTS HAVE LESS THAN A HIGH SCHOOL EDUCATION. PERCENT ALGEBRA I LESS THAN HS EDUC IS THE PERCENT OF ALGEBRA I STUDENTS WHOSE PARENTS HAVE LESS THAN A HIGH SCHOOL EDUCATION.

TABLE 11, cont'd

REGION NORTH CENTRAL

	NUMBER TESTED	PERCENT OF CLASS	PERCENT OF EIGHTH GRADE	PERCENT OF NINTH GRADE	PERCENT BLACK	PERCENT ALGEBRA I BLACK	PERCENT LESS THAN HS EDUC	PERCENT ALGEBRA I LESS THAN HS EDUC
ALAMANCE COUNTY	647	71.3	12.3	31.4	19.5	18.1	19.9	9.4
BURLINGTON CITY	379	77.5	14.9	29.2	34.1	27.8	14.4	6.6
CASWELL COUNTY	210	65.4	12.3	19.0	49.9	46.9	23.0	15.5
CHATHAM COUNTY	339	71.8	6.9	29.9	31.7	31.1	18.0	11.6
DAVIDSON COUNTY	975	72.7	14.2	35.1	3.2	4.3	16.1	14.6
LEXINGTON CITY	189	72.1	23.1	20.2	39.9	37.8	28.6	17.6
THOMASVILLE CITY	136	66.3	15.7	14.1	47.5	47.8	29.6	18.5
FORSYTH COUNTY	2108	70.8	16.6	22.6	36.6	29.5	11.1	4.8
GUILFORD COUNTY	1490	79.8	19.2	32.0	17.0	15.2	9.2	5.6
GREENSBORO CITY	1518	93.1	28.5	32.9	51.3	46.5	12.4	7.4
HIGH POINT CITY	419	61.3	14.6	16.5	48.8	42.9	19.1	12.3
ORANGE COUNTY	272	64.5	10.7	31.3	27.5	21.8	20.2	8.1
CHAPEL HILL CITY	337	93.6	22.5	44.2	21.9	13.4	7.0	1.5
PERSON COUNTY	308	75.9	16.0	27.8	37.2	30.2	22.6	8.4
RANDOLPH COUNTY	604	50.8	14.6	23.1	5.7	4.1	24.1	10.5
ASHEBORO CITY	220	85.3	29.4	33.3	16.0	10.0	17.9	7.7
ROCKINGHAM COUNTY	207	60.0	8.3	36.2	20.3	17.9	24.2	10.3
EDEN CITY	216	66.5	7.8	30.8	21.4	22.5	20.3	13.0
WESTERN ROCKINGHAM	191	63.0	5.5	27.4	20.1	20.9	28.1	18.9
REIDSVILLE CITY	188	68.1	10.1	21.7	47.3	43.6	25.5	17.4
STOKES COUNTY	341	68.8	10.4	22.0	7.7	5.9	19.6	10.1

NOTE: NUMBER TESTED IS THE NUMBER OF STUDENTS WHO TOOK THE ALGEBRA I TEST. PERCENT OF CLASS IS THE TOTAL NUMBER OF ALGEBRA I STUDENTS DIVIDED BY THE NUMBER OF STUDENTS IN THE NINTH GRADE CLASS. IT IS AN ESTIMATE OF THE PERCENT OF A COHORT OR CLASS OF STUDENTS WHO WILL TAKE ALGEBRA I BEFORE LEAVING HIGH SCHOOL. PERCENT OF EIGHTH GRADE IS THE PERCENT OF EIGHTH GRADE STUDENTS TAKING ALGEBRA I. PERCENT OF NINTH GRADE IS THE PERCENT OF NINTH GRADE STUDENTS TAKING ALGEBRA 1. PERCENT BLACK IS THE PERCENT OF TOTAL ENROLLMENT THAT IS BLACK. PERCENT ALGEBRA I BLACK IS THE PERCENT OF ALGEBRA I STUDENTS THAT IS BLACK. PERCENT LESS THAN HS EDUC IS THE PERCENT OF EIGHTH GRADE STUDENTS TAKING THE CALIFORNIA ACHIEVEMENT TEST IN 1989 WHOSE PARENTS HAVE LESS THAN A HIGH SCHOOL EDUCATION. PERCENT ALGEBRA I LESS THAN HS EDUC IS THE PERCENT OF ALGEBRA I STUDENTS WHOSE PARENTS HAVE LESS THAN A HIGH SCHOOL EDUCATION.

TABLE 11, cont'd

REGION SOUTHWEST

	NUMBER TESTED	PERCENT OF CLASS	PERCENT OF EIGHTH GRADE	PERCENT OF NINTH GRADE	PERCENT BLACK	PERCENT ALGEBRA I BLACK	PERCENT LESS THAN HS EDUC	PERCENT ALGEBRA I LESS THAN HS EDUC
ANSON COUNTY	228	58.6	12.2	22.4	61.0	50.9	15.3	10.1
CABARRUS COUNTY	733	73.7	14.3	27.4	14.8	11.2	13.4	7.6
KANNAPOLIS CITY	271	75.9	13.2	45.4	27.5	36.4	29.4	15.9
CLEVELAND COUNTY	384	59.1	8.1	28.2	25.5	21.7	18.5	10.0
KINGS MTN. CITY	223	72.6	15.7	26.4	23.7	24.3	21.5	10.4
SHELBY CITY	181	67.0	19.4	28.5	45.2	31.1	14.9	7.3
GASTON COUNTY	1735	71.7	6.0	35.5	17.6	17.0	25.9	13.3
LINCOLN COUNTY	551	83.7	13.8	34.2	11.8	9.3	23.0	11.8
MECKLENBURG COUNTY	4346	81.0	21.4	31.7	39.4	31.5	13.4	5.6
ROWAN COUNTY	763	70.8	18.0	27.4	16.0	14.8	15.7	9.6
SALISBURY CITY	159	81.5	19.9	33.8	57.6	44.0	11.2	7.6
STANLY COUNTY	434	79.3	27.8	30.7	12.8	6.5	16.7	14.4
ALBEMARLE CITY	121	72.9	0.6	37.3	27.6	14.2	20.5	10.0
UNION COUNTY	606	55.8	10.5	18.1	14.9	11.6	14.6	6.0
MONROE CITY	159	68.8	3.0	30.3	57.8	43.2	22.4	10.8

NOTE: NUMBER TESTED IS THE NUMBER OF STUDENTS WHO TOOK THE ALGEBRA I TEST. PERCENT OF CLASS IS THE TOTAL NUMBER OF ALGEBRA I STUDENTS DIVIDED BY THE NUMBER OF STUDENTS IN THE NINTH GRADE CLASS. IT IS AN ESTIMATE OF THE PERCENT OF A COHORT OR CLASS OF STUDENTS WHO WILL TAKE ALGEBRA I BEFORE LEAVING HIGH SCHOOL. PERCENT OF EIGHTH GRADE IS THE PERCENT OF EIGHTH GRADE STUDENTS TAKING ALGEBRA I. PERCENT OF NINTH GRADE IS THE PERCENT OF NINTH GRADE STUDENTS TAKING ALGEBRA I. PERCENT BLACK IS THE PERCENT OF TOTAL ENROLLMENT THAT IS BLACK. PERCENT ALGEBRA I BLACK IS THE PERCENT OF ALGEBRA I STUDENTS THAT IS BLACK. PERCENT LESS THAN HS EDUC IS THE PERCENT OF EIGHTH GRADE STUDENTS TAKING THE CALIFORNIA ACHIEVEMENT TEST IN 1989 WHOSE PARENTS HAVE LESS THAN A HIGH SCHOOL EDUCATION. PERCENT ALGEBRA I LESS THAN HS EDUC IS THE PERCENT OF ALGEBRA I STUDENTS WHOSE PARENTS HAVE LESS THAN A HIGH SCHOOL EDUCATION.

TABLE 11, cont'd

REGION NORTHWEST

	NUMBER TESTED	PERCENT OF CLASS	PERCENT OF EIGHTH GRADE	PERCENT OF NINTH GRADE	PERCENT BLACK	PERCENT ALGEBRA I BLACK	PERCENT LESS THAN HS EDUC	PERCENT ALGEBRA I LESS THAN HS EDUC
ALEXANDER COUNTY	251	64.2	11.7	30.4	8.3	6.4	23.1	18.5
ALLEGHANY COUNTY	73	56.6	0.0	38.8	2.7	1.4	31.0	12.9
ASHE COUNTY	168	50.1	3.5	27.5	1.0	0.0	22.7	10.3
AVERY COUNTY	146	66.4	3.7	44.5	0.7	0.0	18.4	16.4
BURKE COUNTY	625	64.4	9.7	29.8	8.2	10.3	21.3	13.5
CALDWELL COUNTY	552	53.7	0.0	39.2	7.9	6.4	26.7	13.2
CATAWBA COUNTY	663	61.8	0.2	34.0	7.6	8.6	15.0	10.4
HICKORY CITY	266	73.3	22.0	22.9	26.5	21.6	21.9	7.6
NEWTON-CONOVER CITY	163	67.6	0.0	35.7	19.2	11.7	17.6	12.4
DAVIE COUNTY	294	77.6	14.7	39.6	10.5	10.9	8.6	7.6
IREDELL COUNTY	540	57.4	23.2	22.8	14.4	11.7	15.8	9.0
MOORESVILLE CITY	121	78.1	12.0	27.1	25.7	15.7	19.3	12.5
STATESVILLE CITY	152	59.6	0.0	25.1	55.0	43.0	24.2	8.8
SURRY COUNTY	476	69.6	18.1	23.0	4.5	3.2	21.1	13.0
ELKIN CITY	78	92.9	46.4	38.1	9.2	10.5	10.6	9.1
MOUNT AIRY CITY	130	99.2	20.5	26.7	12.5	10.0	22.8	10.9
WATAUGA COUNTY	253	72.9	20.8	32.3	1.4	0.4	16.9	4.8
WILKES COUNTY	576	65.5	14.2	26.2	6.3	8.5	22.4	12.9
YADKIN COUNTY	265	63.2	0.0	41.3	5.0	5.3	17.1	10.2

NOTE: NUMBER TESTED IS THE NUMBER OF STUDENTS WHO TOOK THE ALGEBRA I TEST. PERCENT OF CLASS IS THE TOTAL NUMBER OF ALGEBRA I STUDENTS DIVIDED BY THE NUMBER OF STUDENTS IN THE NINTH GRADE CLASS. IT IS AN ESTIMATE OF THE PERCENT OF A COHORT OR CLASS OF STUDENTS WHO WILL TAKE ALGEBRA I BEFORE LEAVING HIGH SCHOOL. PERCENT OF EIGHTH GRADE IS THE PERCENT OF EIGHTH GRADE STUDENTS TAKING ALGEBRA I. PERCENT OF NINTH GRADE IS THE PERCENT OF NINTH GRADE STUDENTS TAKING ALGEBRA I. PERCENT BLACK IS THE PERCENT OF TOTAL ENROLLMENT THAT IS BLACK. PERCENT ALGEBRA I BLACK IS THE PERCENT OF ALGEBRA I STUDENTS THAT IS BLACK. PERCENT LESS THAN HS EDUC IS THE PERCENT OF EIGHTH GRADE STUDENTS TAKING THE CALIFORNIA ACHIEVEMENT TEST IN 1989 WHOSE PARENTS HAVE LESS THAN A HIGH SCHOOL EDUCATION. PERCENT ALGEBRA I LESS THAN HS EDUC IS THE PERCENT OF ALGEBRA I STUDENTS WHOSE PARENTS HAVE LESS THAN A HIGH SCHOOL EDUCATION.

TABLE 11, cont'd

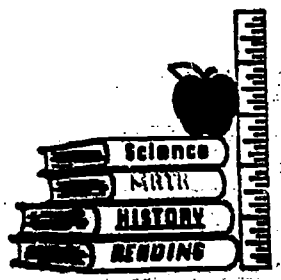
REGION WESTERN

	NUMBER TESTED	PERCENT OF CLASS	PERCENT OF EIGHTH GRADE	PERCENT OF NINTH GRADE	PERCENT BLACK	PERCENT ALGEBRA I BLACK	PERCENT LESS THAN HS EDUC	PERCENT ALGEBRA I LESS THAN HS EDUC
BUNCOMBE COUNTY	1295	72.2	11.3	32.0	5.4	5.5	14.0	8.3
ASHEVILLE CITY	234	70.1	5.3	36.8	40.4	37.0	9.5	8.7
CHEROKEE COUNTY	198	58.9	0.0	41.1	2.2	2.1	21.1	13.1
CLAY COUNTY	106	100.0	26.7	50.9	0.8	0.0	22.6	10.5
GRAHAM COUNTY	93	86.9	21.2	40.2	0.0	0.0	15.1	14.1
HAYWOOD COUNTY	467	78.9	14.4	31.4	1.8	3.7	18.8	9.3
HENDERSON COUNTY	425	65.7	13.7	29.5	1.5	1.7	18.4	7.6
HENDERSONVILLE CITY	154	99.4	28.6	41.9	25.6	23.0	11.1	7.9
JACKSON COUNTY	214	70.6	12.0	34.3	1.2	0.9	20.1	8.6
MACON COUNTY	144	50.3	0.0	30.4	0.9	0.7	16.9	11.5
MADISON COUNTY	120	44.1	0.0	18.4	0.3	0.0	22.8	16.8
MCDOWELL COUNTY	342	59.9	14.2	21.9	5.1	6.2	20.4	15.1
MITCHELL COUNTY	145	72.9	25.3	33.7	0.1	0.7	25.6	10.6
POLK COUNTY	98	60.9	20.7	16.1	13.6	9.2	16.5	12.5
RUTHERFORD COUNTY	469	51.1	0.0	28.2	16.1	16.1	18.7	10.7
SWAIN COUNTY	119	90.8	17.6	32.8	0.4	0.8	23.3	18.8
TRANSYLVANIA COUNTY	267	71.8	13.3	32.5	7.0	6.4	24.7	10.2
YANCEY COUNTY	138	58.7	0.0	23.8	1.0	2.2	10.9	8.9

NOTE: NUMBER TESTED IS THE NUMBER OF STUDENTS WHO TOOK THE ALGEBRA I TEST. PERCENT OF CLASS IS THE TOTAL NUMBER OF ALGEBRA I STUDENTS DIVIDED BY THE NUMBER OF STUDENTS IN THE NINTH GRADE CLASS. IT IS AN ESTIMATE OF THE PERCENT OF A COHORT OR CLASS OF STUDENTS WHO WILL TAKE ALGEBRA I BEFORE LEAVING HIGH SCHOOL. PERCENT OF EIGHTH GRADE IS THE PERCENT OF EIGHTH GRADE STUDENTS TAKING ALGEBRA I. PERCENT OF NINTH GRADE IS THE PERCENT OF NINTH GRADE STUDENTS TAKING ALGEBRA I. PERCENT BLACK IS THE PERCENT OF TOTAL ENROLLMENT THAT IS BLACK. PERCENT ALGEBRA I BLACK IS THE PERCENT OF ALGEBRA I STUDENTS THAT IS BLACK. PERCENT LESS THAN HS EDUC IS THE PERCENT OF EIGHTH GRADE STUDENTS TAKING THE CALIFORNIA ACHIEVEMENT TEST IN 1989 WHOSE PARENTS HAVE LESS THAN A HIGH SCHOOL EDUCATION. PERCENT ALGEBRA I LESS THAN HS EDUC IS THE PERCENT OF ALGEBRA I STUDENTS WHOSE PARENTS HAVE LESS THAN A HIGH SCHOOL EDUCATION.

TABLE 12

State Percentile Table for 1986



End of Course Testing

STATE NORTH CAROLINA END-OF-COURSE TESTING PROGRAM
ALGEBRA I --- 1986

SUMMARY STATISTICS ON CORE TEST

NUMBER OF STUDENTS WITH VALID SCORES	63330	HIGH SCORE	60
		LOW SCORE	2
MEAN	37.7	LOCAL PERCENTILES	RAW SCORE
STANDARD DEVIATION	9.3	90	50
		75	44
VARIANCE	85.8	50 (MEDIAN)	38
		25	31
MEAN PERCENT CORRECT	62.9	10	26

FREQUENCY DISTRIBUTION

RAW SCORE	FREQUENCY	CUMULATIVE FREQUENCY	PERCENT	CUMULATIVE PERCENT	STATE PERCENTILE
60	84	63330	0.13	100.00	99
59	185	63246	0.29	99.87	99
58	268	63061	0.42	99.58	99
57	348	62793	0.55	99.15	98
56	490	62445	0.77	98.60	98
55	565	61955	0.89	97.83	97
54	693	61390	1.09	96.94	96
53	870	60697	1.37	95.84	95
52	999	59827	1.58	94.47	93
51	1162	58828	1.83	92.89	91
50	1263	57666	1.99	91.06	90
49	1441	56403	2.28	89.06	87
48	1573	54962	2.48	86.79	85
47	1752	53389	2.77	84.30	82
46	1954	51637	3.09	81.54	79
45	2027	49683	3.20	78.45	76
44	2204	47656	3.48	75.25	73
43	2285	45452	3.61	71.77	69
42	2351	43167	3.71	68.16	66
41	2538	40816	4.01	64.45	62
40	2500	38278	3.95	60.44	58
39	2545	35778	4.02	56.49	54
38	2465	33233	3.89	52.48	50
37	2487	30768	3.93	48.58	46
36	2575	28281	4.07	44.66	42
35	2410	25706	3.81	40.59	38
34	2423	23296	3.83	36.79	34
33	2262	20873	3.57	32.96	31
32	2197	18611	3.47	29.39	27
31	2060	16414	3.25	25.92	24
30	1983	14354	3.13	22.67	21
29	1815	12371	2.87	19.53	18
28	1614	10556	2.55	16.67	15
27	1368	8942	2.16	14.12	13
26	1278	7574	2.02	11.96	10
25	1201	6296	1.90	9.94	8
24	946	5095	1.49	8.05	7
23	790	4149	1.25	6.55	5
22	708	3359	1.12	5.30	4
21	562	2651	0.89	4.19	3
20	489	2089	0.77	3.30	2
19	404	1600	0.64	2.53	2
LESS THAN 19	1196	1196	1.89	1.89	1

TABLE 13

State Percentile Table for 1987

STATE

NORTH CAROLINA END-OF-COURSE TESTING PROGRAM
ALGEBRA I --- 1987

SUMMARY STATISTICS ON CORE TEST

End of Course Testing

NUMBER OF STUDENTS WITH VALID SCORES	61003	HIGH SCORE	60
MEAN	39.2	LOW SCORE	4
STANDARD DEVIATION	9.8	LOCAL PERCENTILES	RAW SCORE
VARIANCE	95.3	90	52
MEAN PERCENT CORRECT	65.3	75	46
		50 (MEDIAN)	40
		25	32
		10	26

FREQUENCY DISTRIBUTION

RAW SCORE	FREQUENCY	CUMULATIVE FREQUENCY	PERCENT	CUMULATIVE PERCENT	STATE PERCENTILE
60	132	61003	0.22	100.00	99
59	261	60871	0.43	99.78	99
58	372	60610	0.61	99.36	99
57	532	60238	0.87	98.75	98
56	688	59706	1.13	97.87	97
55	779	59018	1.28	96.75	96
54	960	58239	1.57	95.47	95
53	1085	57279	1.78	93.90	93
52	1310	56194	2.15	92.12	91
51	1486	54884	2.44	89.97	89
50	1666	53398	2.73	87.53	86
49	1750	51732	2.87	84.80	83
48	1992	49982	3.27	81.93	80
47	2146	47990	3.52	78.67	77
46	2214	45844	3.63	75.15	73
45	2356	43630	3.86	71.52	70
44	2333	41274	3.82	67.66	66
43	2335	38941	3.83	63.83	62
42	2382	36606	3.90	60.01	58
41	2362	34224	3.87	56.10	54
40	2353	31862	3.86	52.23	50
39	2231	29509	3.66	48.37	47
38	2231	27278	3.66	44.72	43
37	2124	25047	3.48	41.06	39
36	2019	22923	3.31	37.58	36
35	1925	20904	3.16	34.27	33
34	1845	18979	3.02	31.11	30
33	1788	17134	2.93	28.09	27
32	1641	15346	2.69	25.16	24
31	1558	13705	2.55	22.47	21
30	1392	12147	2.28	19.91	19
29	1296	10755	2.12	17.63	17
28	1240	9459	2.03	15.51	14
27	1149	8219	1.88	13.47	13
26	1029	7070	.69	11.59	11
25	975	6041	.60	9.90	9
24	859	5066	1.41	8.30	8
23	761	4207	1.25	6.90	6
22	680	3446	1.11	5.65	5
21	611	2766	1.00	4.53	4
20	506	2155	0.83	3.53	3
19	400	1649	0.66	2.70	2
LESS THAN 19	1249	1249	2.05	2.05	2

TABLE 14

State Percentile Table for 1988

End Of Course Testing

STATE

NORTH CAROLINA END-OF-COURSE TESTING PROGRAM
ALGEBRA 1 — 1988

SUMMARY STATISTICS ON CORE TEST

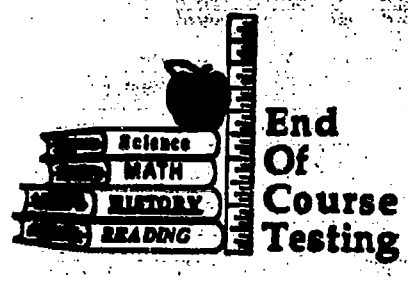
NUMBER OF STUDENTS WITH VALID SCORES	59723	HIGH SCORE	60
		LOW SCORE	6
MEAN	39.2	LOCAL PERCENTILES	RAW SCORE
STANDARD DEVIATION	9.5	90	51
		75	46
VARIANCE	89.5	50 (MEDIAN)	40
		25	33
MEAN PERCENT CORRECT	65.3	10	26

FREQUENCY DISTRIBUTION

RAW SCORE	FREQUENCY	CUMULATIVE FREQUENCY	PERCENT	CUMULATIVE PERCENT	STATE PERCENTILE
60	88	[illegible]	0.15	100.00	99
59	174	[illegible]	0.29	99.85	99
58	334	59461	0.56	99.56	99
57	501	59127	0.84	99.00	99
56	632	58626	1.06	98.16	98
55	799	57994	1.34	97.10	96
54	902	57195	1.51	95.77	95
53	1086	56293	1.82	94.26	93
52	1224	55207	2.05	92.44	91
51	1491	53983	2.50	90.39	89
50	1491	52492	2.50	87.89	87
49	1736	51001	2.91	85.40	84
48	1800	49265	3.01	82.49	81
47	1985	47465	3.32	79.48	78
46	1990	45480	3.33	76.15	74
45	2179	43490	3.65	72.82	71
44	2197	41311	3.68	69.17	67
43	2442	39114	4.09	65.49	63
42	2313	36672	3.87	61.40	59
41	2462	34359	4.12	57.53	55
40	2368	31897	3.96	53.41	51
39	2414	29529	4.04	49.44	47
38	2443	27115	4.09	45.40	43
37	2270	24672	3.80	41.31	39
36	2181	22402	3.65	37.51	36
35	2056	20221	3.44	33.86	32
34	1917	18165	3.21	30.42	29
33	1797	16248	3.01	27.21	26
32	1694	14451	2.84	24.20	23
31	1590	12757	2.66	21.36	20
30	1475	11167	2.47	18.70	17
29	1315	9692	2.20	16.23	15
28	1222	8377	2.05	14.03	13
27	1024	7155	1.71	11.98	11
26	974	6131	1.63	10.27	9
25	873	5157	1.46	8.63	8
24	765	4284	1.28	7.17	7
23	666	3519	1.12	5.89	5
22	523	2853	0.88	4.78	4
21	464	2330	0.78	3.90	4
20	414	1866	0.69	3.12	3
19	351	1452	0.59	2.43	2
LESS THAN 19	1101	1101	1.84	1.84	2

Table 15

State Percentile Table for 1989



STATE

NORTH CAROLINA END-OF-COURSE TESTING PROGRAM
ALGEBRA I --- 1989

SUMMARY STATISTICS ON CORE TEST

NUMBER OF STUDENTS WITH VALID SCORES	60183
MEAN	39.8
STANDARD DEVIATION	9.5
VARIANCE	89.7
MEAN PERCENT CORRECT	66.4

HIGH SCORE	60
LOW SCORE	3

LOCAL PERCENTILES	RAW SCORE
90	52.28
75	46.60
50 (MEDIAN)	40.12
25	33.32
10	27.17

FREQUENCY DISTRIBUTION

RAW		CUMULATIVE		CUMULATIVE	STATE
60	196	60183	0.33	100.00	99
59	394	59987	0.65	99.67	99
58	499	59593	0.83	99.02	99
57	699	59094	1.16	98.19	98
56	797	58395	1.32	97.03	96
55	968	57598	1.61	95.70	95
54	1026	56630	1.70	94.10	93
53	1152	55604	1.91	92.39	91
52	1303	54452	2.17	90.48	89
51	1485	53149	2.47	88.31	87
50	1601	51664	2.66	85.84	85
49	1719	50063	2.86	83.18	82
48	1866	48344	3.10	80.33	79
47	1903	46478	3.16	77.23	76
46	2120	44575	3.52	74.07	72
45	2135	42455	3.55	70.54	69
44	2329	40320	3.87	67.00	65
43	2269	37991	3.77	63.13	61
42	2344	35722	3.89	59.36	57
41	2332	33378	3.87	55.46	54
40	2525	31046	4.20	51.59	49
39	2349	28521	3.90	47.39	45
38	2267	26172	3.77	43.49	42
37	2309	23905	3.84	39.72	38
36	2217	21596	3.68	35.88	34
35	2114	19379	3.51	32.20	30
34	1884	17265	3.13	28.69	27
33	1841	15381	3.06	25.56	24
32	1684	13540	2.80	22.50	21
31	1562	11856	2.60	19.70	18
30	1433	10294	2.38	17.10	16
29	1339	8861	2.22	14.72	14
28	1151	7522	1.91	12.50	12
27	1084	6371	1.80	10.59	10
26	953	5287	1.58	8.78	8
25	786	4334	1.31	7.20	7
24	706	3548	1.17	5.90	5
23	549	2842	0.91	4.72	4
22	472	2293	0.78	3.81	3
21	373	1821	0.62	3.03	3
20	329	1448	0.55	2.41	2
19	281	1119	0.47	1.86	2
LESS THAN 19	838	838	1.39	1.39	1

Schedule for End-of-Course Testing: Revised May, 1989

Subject	School Year 1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92
Algebra I	▨	■	■	■	■	■	■	■
Algebra II		▨	■	■	■	■	■	■
Geometry				▨	■	■	■	■
Biology	▨	▨	■	■	■	■	■	■
Chemistry				▨	■	■	■	■
Physical Science						▨	■	■
Physics					▨	■	■	■
English I: Reading & Grammar (Reading Comprehension, Editing, and Literary Terms)					▨	■	■	■
English II: Composing					▨	▨	▨	■
English III: Reading and Analyzing Literature							▨	■
Government & Economics						▨	■	■
U.S. History			▨	■	■	■	■	■
Health & P.E.							▨	■
Foreign Language (To be specified)								▨

▨ Development: Items written by N.C. teachers; edited and placed in booklets; reviewed by teachers; field tested with students

■ Testing and Reporting: Multiple forms in each class, common (core) and different items on each form, student and curriculum information