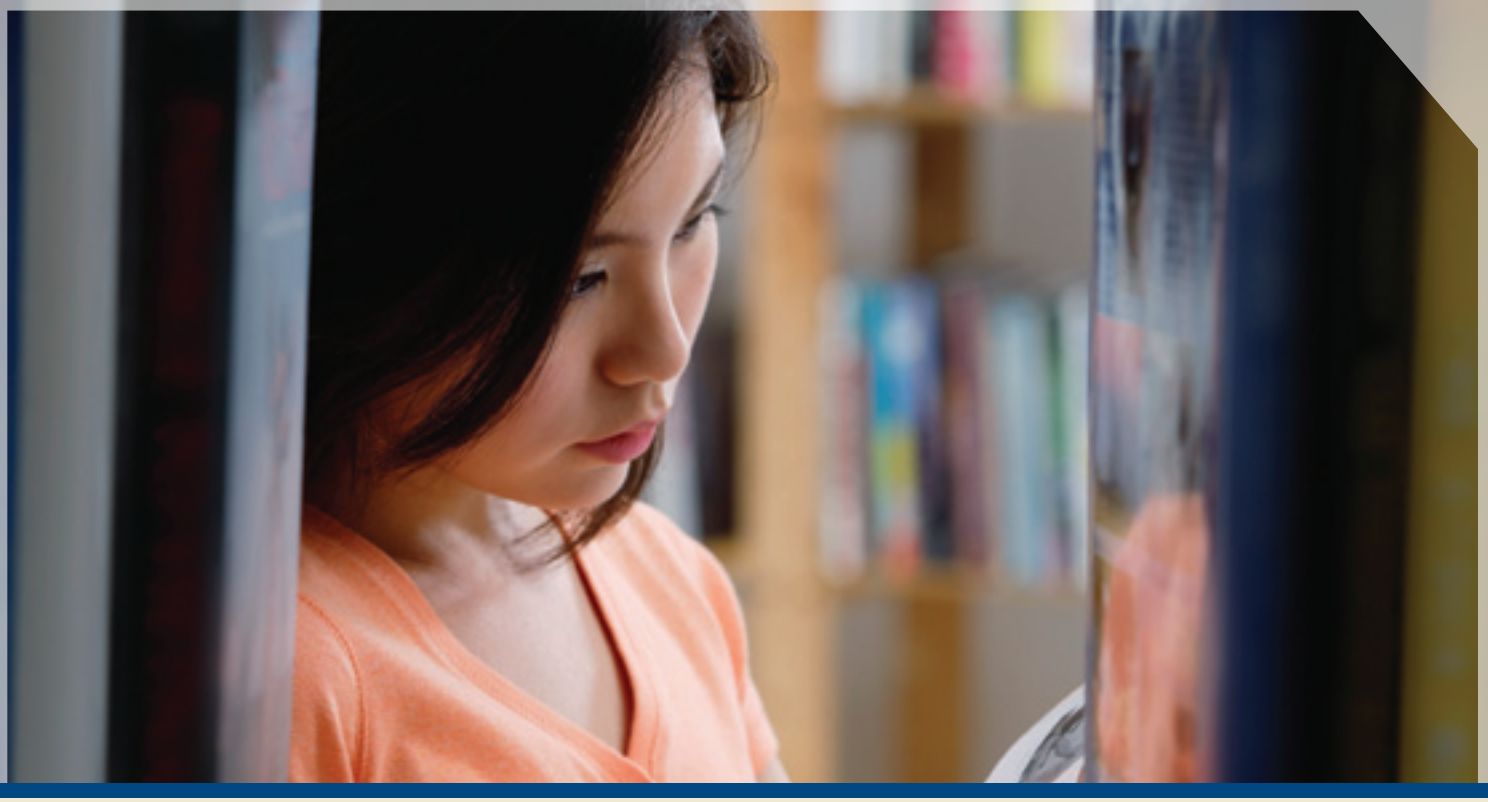


The Nation's Report Card

Grade 12 Reading and Mathematics 2009 National and Pilot State Results

NATIONAL ASSESSMENT OF EDUCATIONAL PROGRESS

ies NATIONAL CENTER FOR EDUCATION STATISTICS
Institute of Education Sciences
U.S. Department of Education
NCES 2011–455

Contents

What is The Nation's Report Card™?

The Nation's Report Card™ informs the public about the academic achievement of elementary and secondary students in the United States. Report cards communicate the findings of the National Assessment of Educational Progress (NAEP), a continuing and nationally representative measure of achievement in various subjects over time.

Since 1969, NAEP assessments have been conducted periodically in reading, mathematics, science, writing, U.S. history, civics, geography, and other subjects. NAEP collects and reports information on student performance at the national and state levels, making the assessment an integral part of our nation's evaluation of the condition and progress of education. Only academic achievement data and related background information are collected. The privacy of individual students and their families is protected.

NAEP is a congressionally authorized project of the National Center for Education Statistics (NCES) within the Institute of Education Sciences of the U.S. Department of Education. The Commissioner of Education Statistics is responsible for carrying out the NAEP project. The National Assessment Governing Board oversees and sets policy for NAEP.

Executive Summary

Twelfth-graders' performance in reading and mathematics improves since 2005

Nationally representative samples of twelfth-graders from 1,670 public and private schools across the nation participated in the 2009 National Assessment of Educational Progress (NAEP). Approximately 52,000 students were assessed in reading, and 49,000 students were assessed in mathematics. National reading results from the 2009 assessment are compared to results from five earlier assessment years going back to 1992. The 2009 mathematics results are compared to those from 2005 when a change in the mathematics framework for the assessment necessitated a new trend line for that subject at grade 12.

State results in NAEP reading and mathematics are reported for twelfth-grade public school students in 11 states. These states volunteered to participate in the twelfth-grade state pilot program in 2009.

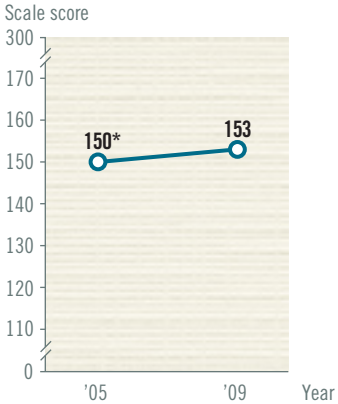
Reading results were based on students' responses to questions designed to measure reading comprehension across two types of texts: literary and informational. The average reading score in 2009 was higher than in 2005 but lower than in 1992 (figure **A**). Thirty-eight percent of twelfth-graders performed at or above the *Proficient* level in reading in 2009, which was higher than the percentage in 2005, but not significantly different from the percentages in other earlier assessment years. The percentage of students performing at or above *Basic* (74 percent) in 2009 was not significantly different from 2005 and was lower than in 1992.

Figure **A.** Trend in twelfth-grade NAEP reading average scale scores

* Significantly different ($p < .05$) from 2009.

Mathematics results were based on students' responses to questions designed to measure their knowledge and abilities across four content areas: number properties and operations; measurement and geometry; data analysis, statistics, and probability; and algebra. The average mathematics score in 2009 was higher than in 2005 (figure **B**), as were the percentages of students at or above *Proficient* (26 percent) and at or above *Basic* (64 percent).

Figure **B.** Average scale scores in twelfth-grade NAEP mathematics: 2005 and 2009



* Significantly different ($p < .05$) from 2009.

Some student groups make gains since 2005, but gaps in achievement persist

Average mathematics scores were higher in 2009 than in 2005 for twelfth-grade public and private school students overall, for all racial/ethnic groups, and for male and female students. While the overall average reading score was also higher in 2009 than in 2005, reading scores did not change significantly for Black, Hispanic, and American Indian/Alaska Native students, or for female students. Racial/ethnic and gender achievement gaps did not change significantly in either reading or mathematics.

In comparison to 1992, reading scores were lower in 2009 overall and for both male and female students. There were no significant changes in the reading scores for any of the racial/ethnic groups with samples large enough to report results in both years, and no significant changes in the racial/ethnic or gender achievement gaps compared to 1992.

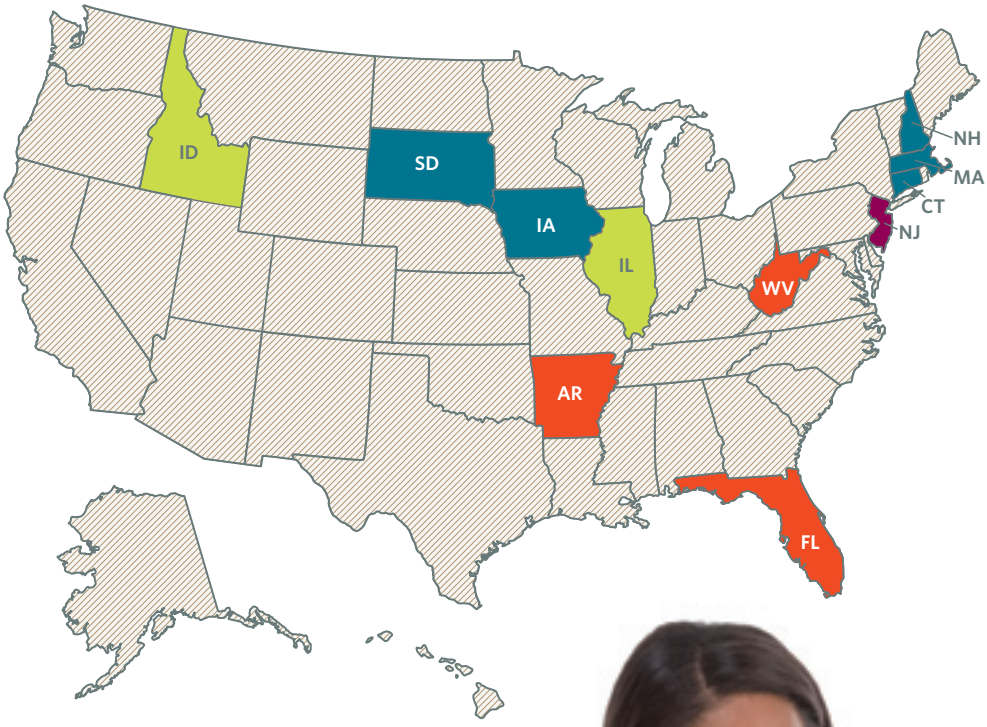
	Change in average reading scale score		Change in average mathematics scale score
Characteristic	Since 1992	Since 2005	Since 2005
Overall	▼	▲	▲
Race/ethnicity			
White	◆	▲	▲
Black	◆	◆	▲
Hispanic	◆	◆	▲
Asian/Pacific Islander	◆	▲	▲
American Indian/Alaska Native	‡	◆	▲
Gender			
Male	▼	▲	▲
Female	▼	◆	▲
Gaps			
White – Black	◆	◆	◆
White – Hispanic	◆	◆	◆
Male – Female	◆	◆	◆

▲ Indicates the score was higher in 2009.
▼ Indicates the score was lower in 2009.
◆ Indicates no significant change in the score or the gap in 2009.
‡ Reporting standards not met. Sample size insufficient to permit a reliable estimate.

NOTE: Accommodations were not permitted for the NAEP reading assessment in 1992.

Results for public school students in 11 states available for the first time

The 2009 results from the twelfth-grade state pilot program in reading and mathematics provide a first look at the performance of public school students in the 11 states that volunteered to participate and how their performance compares to the national average for public school students. Five states had higher average scores than the nation in both reading and mathematics: Connecticut, Iowa, Massachusetts, New Hampshire, and South Dakota.



Compared to the nation, average reading and mathematics scale scores were

- **higher in both subjects in** Connecticut, Iowa, Massachusetts, New Hampshire, and South Dakota;
- **higher in reading and not significantly different in mathematics in** Idaho and Illinois;
- **higher in mathematics and not significantly different in reading in** New Jersey; and
- **lower in both subjects in** Arkansas, Florida, and West Virginia.

State did not participate in the twelfth-grade state pilot program.

Introduction

National results from the 2009 NAEP assessments in reading and mathematics show how twelfth-graders' performance in these subjects has progressed over time. State results are also available for the 11 states that volunteered to participate in the 2009 state pilot program at grade 12.

The National Assessment Governing Board oversees the development of NAEP frameworks, which describe the specific knowledge and skills that should be assessed in each subject. Frameworks are developed through an extensive process incorporating ideas and input from subject-area experts, school administrators, policymakers, teachers, parents, and others. NAEP frameworks also describe the types of questions that should be included in each assessment, and how they should be designed and scored. Overviews of the subject-area frameworks are provided in the reading and mathematics sections of this report.

Reporting NAEP Results

The assessment results are based on nationally representative samples of twelfth-graders from 1,670 schools. Approximately 52,000 students were assessed in reading, and 49,000 were assessed in mathematics. Results for the nation are representative of the performance of students attending public and private schools across the nation even though results for private school students could not be reported separately. Results in reading and mathematics are also presented for public school students nationally and in the following 11 states that participated in the first voluntary state pilot program in 2009 for grade 12:

- Arkansas
- Connecticut
- Florida
- Idaho
- Illinois
- Iowa
- Massachusetts
- New Hampshire
- New Jersey
- South Dakota
- West Virginia

Scale scores

NAEP reading results for grade 12 are reported as average scores on a 0–500 scale, and mathematics results are reported on a 0–300 scale. Because NAEP scales are developed independently for each subject, scores cannot be compared across subjects. Average scale scores are referred to as "average scores" or "scores" in the discussion of the results in this report.

In addition to reporting an overall score for each subject, scale scores are reported at five selected percentiles to show trends in results for students performing at lower (10th and 25th percentiles), middle (50th percentile), and higher (75th and 90th percentiles) levels.

Achievement levels

Based on recommendations from educators and members of the general public, the Governing Board sets specific achievement levels for each subject area and grade. Achievement levels are performance standards showing what students should know and be able to do. NAEP results are reported as percentages of students performing at or above the *Basic* and *Proficient* levels and at the *Advanced* level.

As provided by law, NCES, upon review of congressionally mandated evaluations of NAEP, has determined that achievement levels are to be used on a trial basis and should be interpreted with caution. Even though they are still considered trial, the NAEP achievement levels have been widely used by national and state officials.

NAEP Achievement Levels

Basic denotes partial mastery of prerequisite knowledge and skills that are fundamental for proficient work at each grade.

Proficient represents solid academic performance. Students reaching this level have demonstrated competency over challenging subject matter.

Advanced represents superior performance.

Interpreting the Results

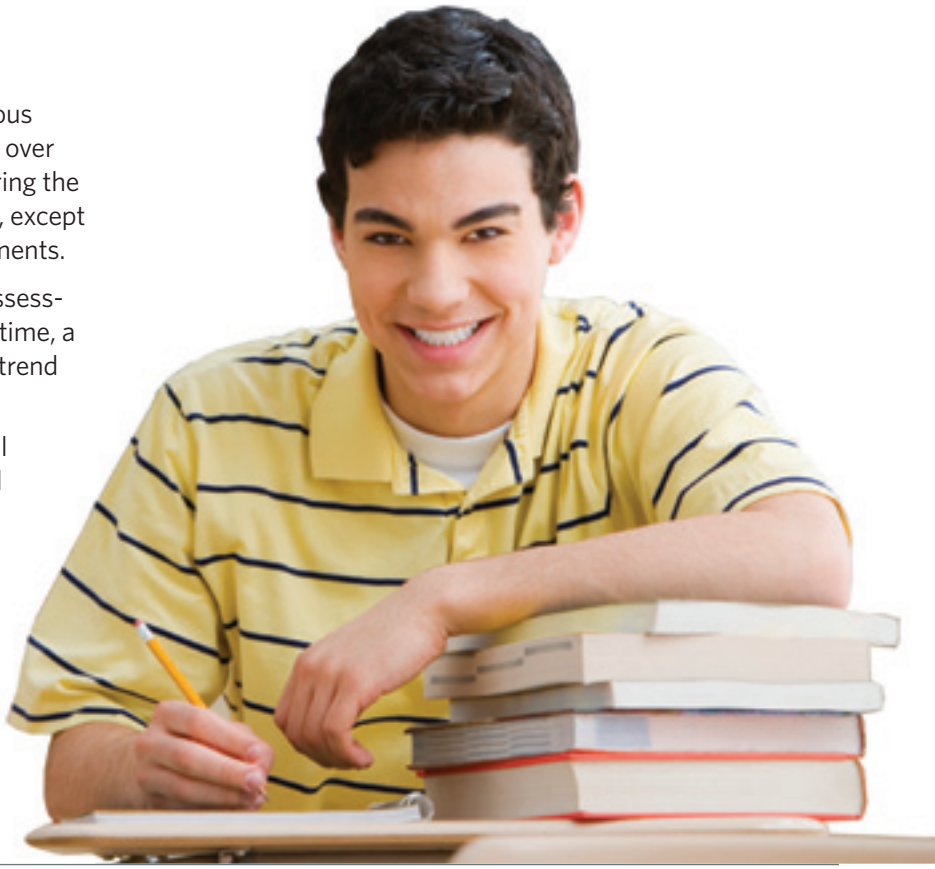
Twelfth-grade national results from the 2009 reading assessment are compared to the results from 5 previous assessment years. Changes in students' performance over time in reading are summarized in the text by comparing the results to 2005 and the first assessment year in 1992, except when pointing out consistent patterns across assessments.

National results for the twelfth-grade mathematics assessment are compared to those from 2005 only. At that time, a new framework was adopted for grade 12, and a new trend line was established.

NAEP reports results using widely accepted statistical standards; findings are reported based on a statistical significance level set at .05 with appropriate adjustments for multiple comparisons (see the Technical Notes for more information). The symbol (*) is used in tables and figures to indicate that an earlier year's score or percentage is significantly different from the 2009 results, or to indicate that the specific state results are significantly different from the corresponding results for public school students in the nation overall. Only those differences that are found to be statistically significant are discussed as higher or lower. The same criterion applies when comparing the performance of one student group to another.

When scores significantly increase or decrease from one assessment year to the next, we are confident that student performance has changed. However, NAEP is not designed to identify the causes of these changes. Furthermore, the many factors that may influence average student achievement scores also change across time.

Although comparisons are made in students' performance based on demographic characteristics and educational experiences, the results cannot be used to establish a cause-and-effect relationship between student characteristics and achievement. Many factors may influence student achievement, including educational policies and practices, available resources, and demographic characteristics of the student body.



Accommodations and exclusions in NAEP

It is important to assess all selected students from the target population, including students with disabilities (SD) and English language learners (ELL). To accomplish this goal, many of the same testing accommodations (e.g., extra testing time or individual rather than group administration) that students use on other tests are provided for SD and ELL students participating in NAEP.

Prior to 1998, no accommodations were provided in NAEP reading assessments. Because providing accommodations represented a change in testing conditions that could potentially affect the measurement of changes over time, split national and state samples of students were assessed in 1998—one sample permitted accommodations, and the other did not. Although the reading results for both samples are presented in the tables and figures, any comparisons to 1998 in the text are based on just the accommodated samples. Beginning in 2002, accommodations were permitted for all twelfth-grade reading administrations. Accommodations were available for both the 2005 and 2009 mathematics administrations.

Even with the availability of accommodations, some students may still be excluded from NAEP. Variations in exclusion and accommodation rates, due to differences in state policies and practices for identifying and including SD and ELL students, should be considered when comparing students' performance over time and across states. States also vary in their proportions of special-needs students (especially ELL students). While the effect of exclusion is not precisely known, comparisons of performance results could be affected if exclusion rates are markedly different among states or vary widely over time. See the appendix tables at the end of this report for the percentages of students accommodated and excluded in the nation and participating states in reading (tables **A-1** through **A-5**) and mathematics (tables **A-11** through **A-15**). More information about NAEP's policy on the inclusion of special-needs students is available at http://nces.ed.gov/nationsreportcard/about/inclusion.asp.

Explore Additional Results

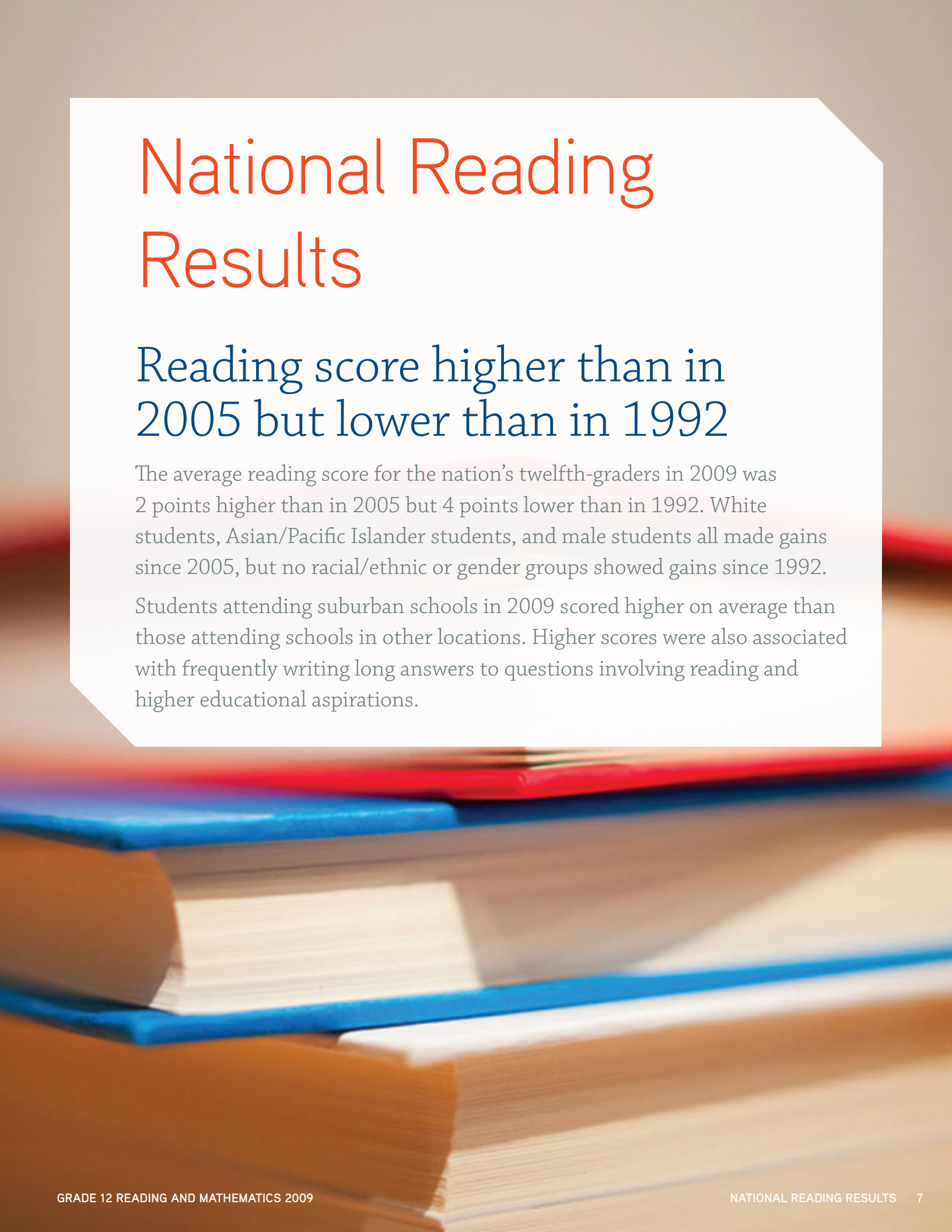
Not all of the data for results discussed in this report are presented in corresponding tables or figures. These and other results can be found in the NAEP Data Explorer at http://nces.ed.gov/nationsreportcard/naepdata/.

National Reading Results

Reading score higher than in 2005 but lower than in 1992

The average reading score for the nation's twelfth-graders in 2009 was 2 points higher than in 2005 but 4 points lower than in 1992. White students, Asian/Pacific Islander students, and male students all made gains since 2005, but no racial/ethnic or gender groups showed gains since 1992.

Students attending suburban schools in 2009 scored higher on average than those attending schools in other locations. Higher scores were also associated with frequently writing long answers to questions involving reading and higher educational aspirations.



The Reading Framework

The development of the *Reading Framework for the 2009 National Assessment of Educational Progress* was guided by scientifically based reading research that defines reading as a dynamic cognitive process that allows students to

- understand written text;
- develop and interpret meaning; and
- use meaning as appropriate to the type of text, purpose, and situation.

The 2009 reading framework specifies the use of both literary and informational texts. Literary texts include: fiction, literary nonfiction, and poetry. Informational texts fall into three broad categories: exposition; argumentation and persuasive text; and procedural text and documents. The inclusion of distinct text types recognizes that students read different texts for different purposes.

The *Reading Framework for the 2009 National Assessment of Educational Progress* replaces the framework first used for the 1992 reading assessment and for subsequent twelfth-grade reading assessments through 2005. Compared to the previous framework, the 2009 reading framework for grade 12 includes more emphasis on cognitive processes, a wider variety of literary and informational texts, and a new systematic assessment of vocabulary knowledge.

The 2009 reading framework for grade 12 specified that a higher proportion of the text types should be informational (70 percent). Informational text includes stand-alone documents and procedural texts typical of the kind of documents adults encounter and must understand every day. This change from the earlier framework was made to enable NAEP to better assess the preparedness of twelfth-graders for postsecondary education and training.

Results from the 2009 reading trend study determined that the 2009 reading assessment results could be compared to results from earlier assessment years. Special analyses included in-depth comparisons of the frameworks and the test questions, as well as a close examination of how the same students performed on the 2009 assessment and on questions from the earlier assessment that were readministered in 2009. A summary of the special analyses conducted and an overview of the differences between the previous framework and the 2009 framework are available on the Web at http://nces.ed.gov/nationsreportcard/reading/trend_study.asp.

The 2009 framework identifies three reading behaviors or *cognitive targets:* locate and recall, integrate and interpret, and critique and evaluate. The term *cognitive target* refers to the mental processes or kinds of thinking that underlie reading comprehension. Reading questions are developed to measure these cognitive targets for both literary and informational texts.

In addition, the framework calls for a systematic assessment of *meaning vocabulary*. Meaning vocabulary questions measure readers' knowledge of specific word meaning as used in the passage by the author and also measure passage comprehension.

Meaning vocabulary questions were included in the 2009 reading assessment. Some were administered as part of a set of questions related to the text with which they were presented, and these contributed to the reading results for grade 12. Another set of *meaning vocabulary* questions was presented in special vocabulary sections that did not contribute to reading results.

Reading Cognitive Targets

Locate and Recall: When locating or recalling information from what they have read, students may identify explicitly stated main ideas or may focus on specific elements of a story.

Integrate and Interpret: When integrating and interpreting what they have read, students may make comparisons, explain character motivation, or examine relations of ideas across the text.

Critique and Evaluate: When critiquing or evaluating what they have read, students view the text critically by examining it from numerous perspectives or may evaluate overall text quality or the effectiveness of particular aspects of the text.

The complete reading framework for 2009 is available at http://www.nagb.org/publications/frameworks/reading09.pdf.

Reading score up 2 points since 2005

The average reading score for the nation's twelfth-graders was 2 points higher in 2009 than in 2005 (figure **1**). The score in 2009, however, was 4 points lower than the score for the first reading assessment in 1992.

In comparison to 2005, scores in 2009 were higher for students at the 10th and 50th percentiles, and not significantly different from the scores for students at the 25th, 75th, and 90th percentiles (figure **2**). In comparison to 1992, scores were lower in 2009 for students at the 10th, 25th, and 50th percentiles, and not significantly different at the 75th and 90th percentiles.

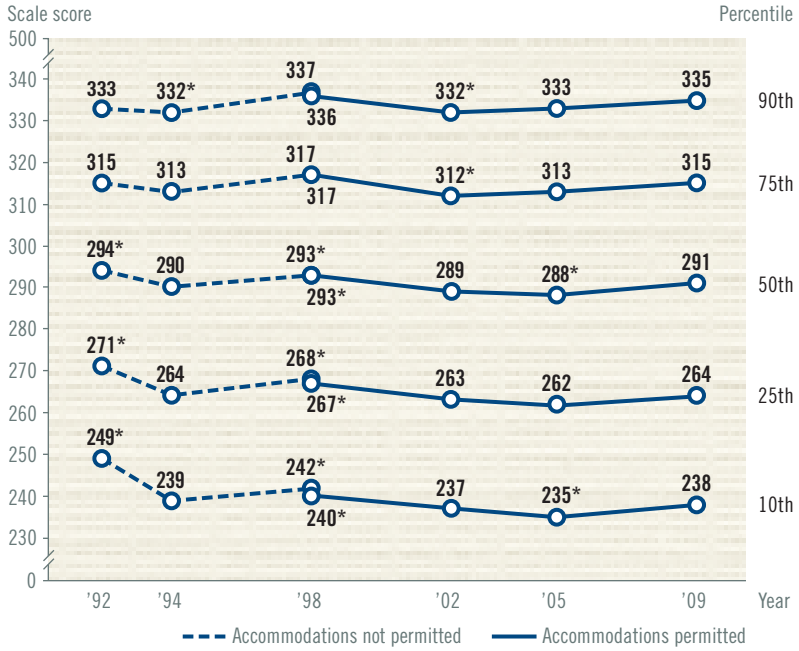
Percentage of students performing at or above *Proficient* increases since 2005

Thirty-eight percent of students performed at or above the *Proficient* level in reading in 2009 (figure **3**). The percentage at or above *Proficient* was 3 percentage points higher in 2009 than in 2005; however, it was not significantly different from the earlier assessment years. The percentage of students performing at or above the *Basic* level in 2009 was not significantly different from the percentage in 2005 but was lower than in 1992. There was no change in the percentage at *Advanced* since 2005, although it was 1 percentage point higher than in 1992.

Figure 1. Trend in twelfth-grade NAEP reading average scale scores

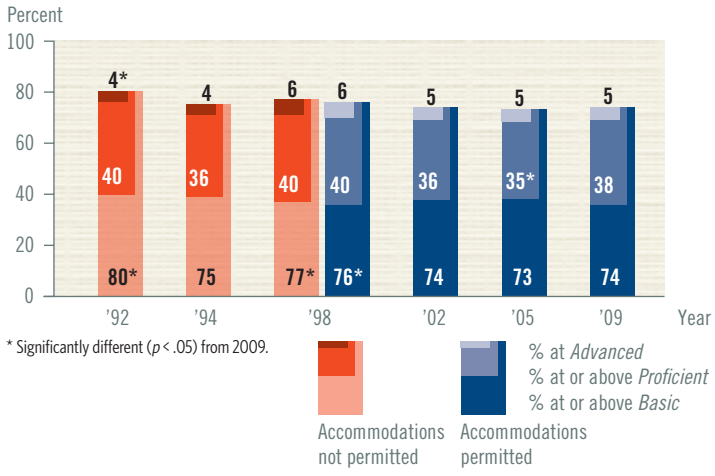
* Significantly different ($p < .05$) from 2009.

Figure 2. Trend in twelfth-grade NAEP reading percentile scores



* Significantly different ($p < .05$) from 2009.

Figure 3. Trend in twelfth-grade NAEP reading achievement-level results



* Significantly different ($p < .05$) from 2009.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), various years, 1992–2009 Reading Assessments.

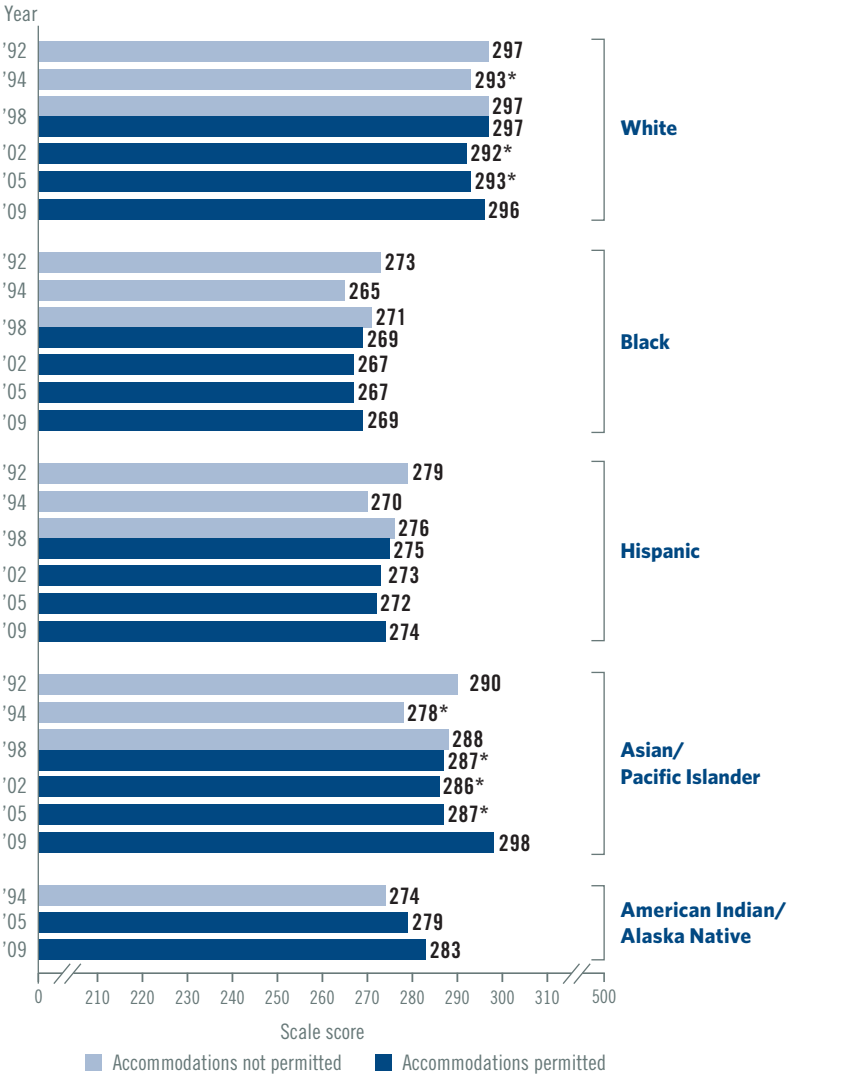
White and Asian/Pacific Islander students make gains since 2005

Although the overall average reading score increased since 2005, not all racial/ethnic groups made gains (figure **4**). The average score for White students was 3 points higher in 2009 than in 2005, and the score for Asian/Pacific Islander students was 11 points higher. Scores for Black, Hispanic, and American Indian/Alaska Native students did not change significantly from 2005 to 2009.

There was no statistically significant change in scores for any of the racial/ethnic groups in comparison to 1992, even though the overall average score for twelfth-graders was lower (see Technical Notes for information about interpreting statistical significance).

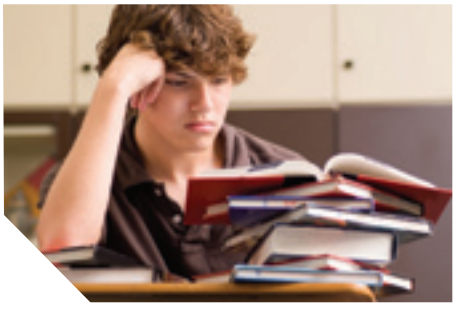
White and Asian/Pacific Islander students scored higher on average than Black, Hispanic, and American Indian/Alaska Native students in 2009. Scores for Hispanic and American Indian/Alaska Native students did not differ significantly from each other, and both were higher than the score for Black students.

Figure **4.** Trend in twelfth-grade NAEP reading average scale scores, by race/ethnicity



* Significantly different ($p < .05$) from 2009.

NOTE: Sample sizes were insufficient to permit reliable estimates for American Indian/Alaska Native students in 1992, 1998, and 2002. Black includes African American, Hispanic includes Latino, and Pacific Islander includes Native Hawaiian. Race categories exclude Hispanic origin.



SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), various years, 1992–2009 Reading Assessments.

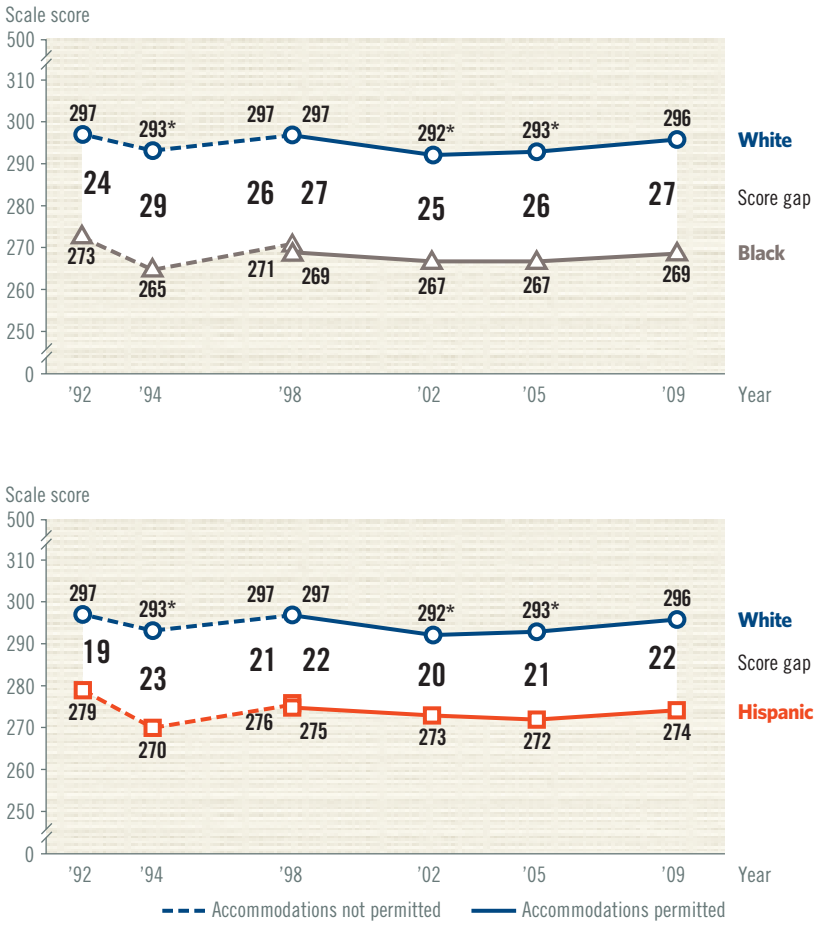
Racial/ethnic gaps persist

Score gaps in reading persisted between White students and their Black and Hispanic peers (figure 5). Neither the 27-point score gap in 2009 between White and Black students, nor the 22-point gap between White and Hispanic students was significantly different from the score gaps in previous assessment years.

Achievement-Level Results

Information is available on reading achievement-level results for racial/ethnic groups and other reporting categories at http://nationsreportcard.gov/reading_2009/gr12_national.asp.

Figure 5. Trend in twelfth-grade NAEP reading average scale scores and score gaps, by selected racial/ethnic groups



* Significantly different ($p < .05$) from 2009.
NOTE: Black includes African American, and Hispanic includes Latino. Race categories exclude Hispanic origin. Score gaps are calculated based on differences between unrounded average scores.

Table 1. Percentage of students assessed in twelfth-grade NAEP reading, by race/ethnicity: Various years, 1992–2009

Race/ethnicity	1992[1]	1994[1]	1998	2002	2005	2009
White	74*	75*	72*	71*	67*	61
Black	15	13*	14	12*	13	15
Hispanic	7*	7*	10*	10*	14*	17
Asian/Pacific Islander	3*	4*	4*	5	5	6
American Indian/Alaska Native	#*	1	#*	‡	1	1

Rounds to zero.
‡ Reporting standards not met. Sample size insufficient to permit a reliable estimate.
* Significantly different ($p < .05$) from 2009.
[1] Accommodations were not permitted in this assessment year.
NOTE: Black includes African American, Hispanic includes Latino, and Pacific Islander includes Native Hawaiian. Race categories exclude Hispanic origin. Detail may not sum to totals because results are not shown for students whose race/ethnicity was unclassified.

The proportion of twelfth-graders in the racial/ethnic groups NAEP reports on has changed over time (table 1). From 1992 to 2009, the percentage of White students has decreased while the percentages of Hispanic, Asian/Pacific Islander, and American Indian/Alaska Native students have increased. Since 2005, the percentage of White students has decreased from 67 percent to 61 percent, and the percentage of Hispanic students has increased from 14 percent to 17 percent. The percentage of Black students has not changed significantly in comparison to either 2005 or 1992.

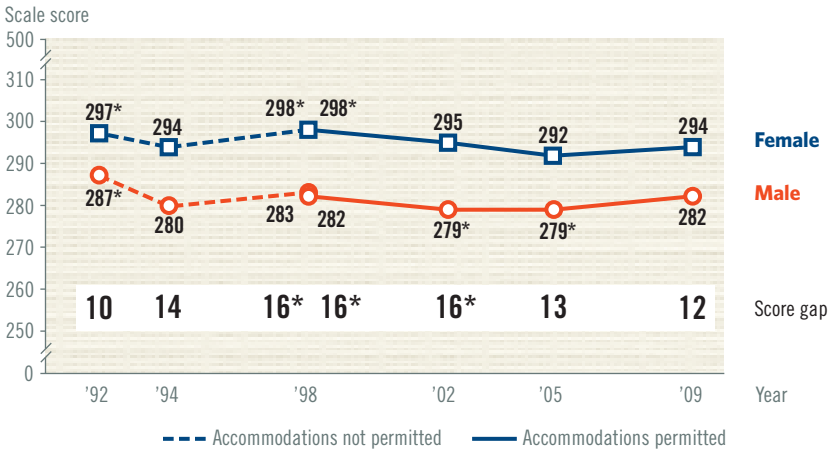
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), various years, 1992–2009 Reading Assessments.

Reading score for male students up 3 points since 2005

While the average score for female students in 2009 was not significantly different from 2005, male students scored 3 points higher in 2009 (figure **6**). Average reading scores for both male and female twelfth-graders were lower in 2009 than in 1992.

Female students scored 12 points higher on average than male students in 2009, which was not significantly different from the score gaps in either 2005 or 1992.

Figure **6.** Trend in twelfth-grade NAEP reading average scale scores and score gaps, by gender



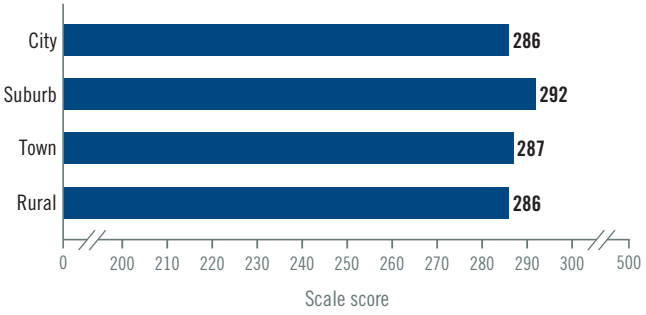
* Significantly different ($p < .05$) from 2009.
NOTE: Score gaps are calculated based on differences between unrounded average scores.

Students in suburban schools score higher

Students' performance on the reading assessment differed based on the location of the schools they attended. In 2009, students attending suburban schools scored higher on average than those attending schools in cities, towns, and rural locations (figure **7**). Scores for students attending city, town, and rural schools did not differ significantly from each other. See the Technical Notes for more information about how these school location categories were defined.

Although not shown here, the percentage of twelfth-graders attending suburban schools (37 percent) was higher than the percentages in cities (30 percent), towns (11 percent), and rural locations (22 percent).

Figure **7.** Average scale scores in twelfth-grade NAEP reading, by school location: 2009



SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), various years, 1992–2009 Reading Assessments.

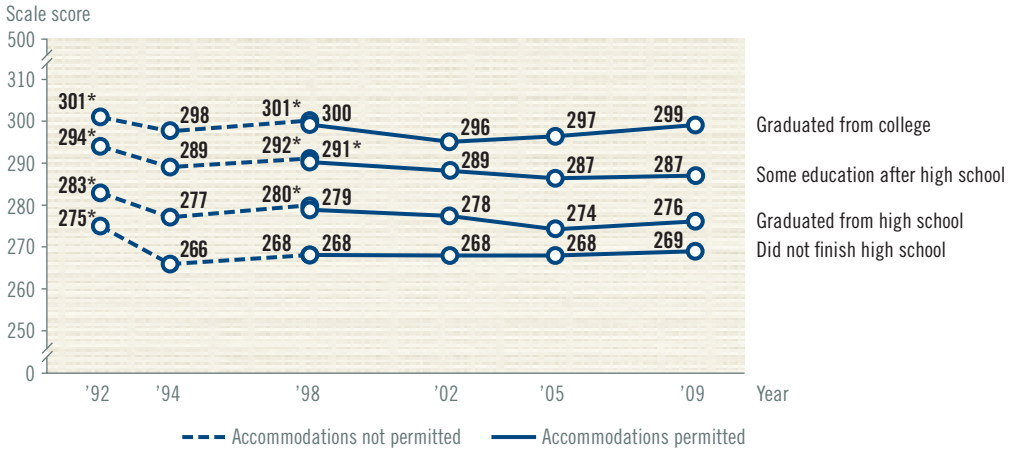
Higher levels of parental education associated with higher scores

Twelfth-graders were asked to report the highest level of education completed by each parent. Five response options—did not finish high school, graduated from high school, some education after high school, graduated from college, and "I don't know"—were offered. Results are reported for the highest level of education for either parent.

In 2009, students who reported higher levels of parental education had higher average reading scores than those who reported lower levels (figure **8**). For example, students whose parents graduated from college scored higher on average than those whose parents had some education after high school, who in turn scored higher than those whose parents' highest level of education was high school.

Although there were no significant changes in scores from 2005 to 2009 based on the level of parental education, scores were lower in 2009 than in 1992 for all four categories.

Figure **8.** Trend in twelfth-grade NAEP reading average scale scores, by student-reported highest level of parental education



* Significantly different ($p < .05$) from 2009.

Table **2.** Percentage of students assessed in twelfth-grade NAEP reading, by student-reported highest level of parental education: Various years, 1992–2009

Highest level of parental education	1992[1]	1994[1]	1998	2002	2005	2009
Did not finish high school	8	7	7	7	8	8
Graduated from high school	22*	21*	19*	18	18	17
Some education after high school	27*	26*	25*	24*	24	22
Graduated from college	41*	44*	46*	48	47	49

* Significantly different ($p < .05$) from 2009.
[1] Accommodations were not permitted in this assessment year.
NOTE: Detail may not sum to totals because results are not shown for students who did not know the highest education level for either of their parents.

The percentage of students whose parents graduated from college has increased over time, while the percentages of students whose parents graduated from high school or completed some education after high school have decreased (table **2**). While there was no significant change in the percentages of students who reported different levels of parental education since 2005, the percentage of students whose parents graduated from college increased from 41 percent in 1992 to 49 percent in 2009. The percentages of students whose parents graduated from high school or completed some education after high school were both smaller in 2009 than in 1992, and the percentage of students whose parents did not finish high school was not significantly different from the percentage in 1992.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), various years, 1992–2009 Reading Assessments.

Students who write long answers to questions that involve reading score higher than those who do not

Students were asked how often they wrote long answers to questions on tests or assignments that involved reading. Students selected one of the following response options: never, once or twice a year, once or twice a month, and at least once a week.

In 2009, there was no significant difference in the scores for students who reported writing long answers to questions related to reading monthly or weekly, and both groups scored higher on average than students who wrote long answers less frequently (figure **9**). Students who reported never writing long answers to questions involving reading had the lowest average score.

Figure **9.** Average scale scores in twelfth-grade NAEP reading, by student-reported frequency of writing long answers to questions that involve reading: 2009

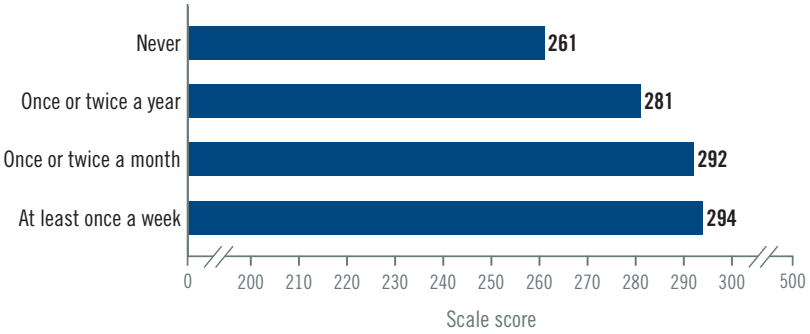


Table **3.** Percentage of students assessed in twelfth-grade NAEP reading, by student-reported frequency of writing long answers to questions that involve reading: 2002, 2005, and 2009

Frequency of writing long answers to questions that involve reading	2002	2005	2009
Never	7*	6	6
Once or twice a year	22	21*	22
Once or twice a month	41*	42*	38
At least once a week	31*	32*	34

* Significantly different ($p < .05$) from 2009.
NOTE: Detail may not sum to totals because of rounding.

Students assessed in 2002 and 2005 were asked the same question about writing long answers to questions on tests or assignments involving reading. In 2009, about one-third (34 percent) of twelfth-graders reported writing long answers at least once a week, which was higher than the percentages in 2005 and 2002 (table **3**). The percentage of those who reported writing long answers once or twice a month was lower in 2009 than in 2005 and 2002. The percentage of students who reported never writing long answers in 2009 was not significantly different from the percentage in 2005 but was 1 percentage point lower than in 2002.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2002, 2005, and 2009 Reading Assessments.

Scores vary with students' educational aspirations

Twelfth-grade students were asked to choose from several options indicating how much education they expected to complete. Students who expected to complete higher levels of education had higher average reading scores (figure **10**). In 2009, students who expected to complete graduate school had higher average scores than students who expected to complete less education. The average scores of students who reported they were unlikely to finish high school and those expecting to finish high school were not significantly different from each other, and both were lower than the average scores of students in the other categories.

Figure 10. Average scale scores in twelfth-grade NAEP reading, by student-reported highest level of education they plan to complete: 2009

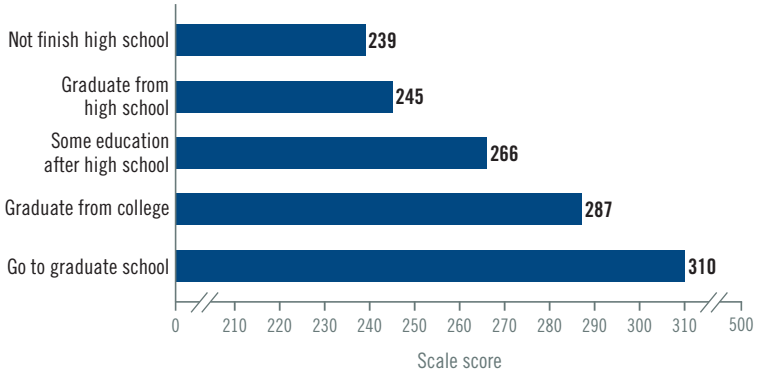


Table 4. Percentage of students assessed in twelfth-grade NAEP reading, by student-reported highest level of education they plan to complete: 2005 and 2009

Highest level of education students plan to complete	2005	2009
Not finish high school	1	1
Graduate from high school	5	4
Some education after high school	9*	7
Graduate from college	58*	60
Go to graduate school	25	26

* Significantly different ($p < .05$) from 2009.
NOTE: Detail may not sum to totals because results are not shown for students who did not know the highest level of education they plan to complete.

Students assessed in 2005 were asked the same question about their educational aspirations. The percentage of twelfth-graders who expected to graduate from college increased from 58 percent in 2005 to 60 percent in 2009 (table **4**). The percentage of twelfth-graders who expected to complete some education after high school was lower in 2009 than in 2005. There were no significant changes since 2005 in the percentages of students who reported that they would not finish high school, would graduate from high school, or would go to graduate school.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2005 and 2009 Reading Assessments.

Assessment Content at Grade 12

The distribution of items among the three cognitive targets reflects the relative emphasis of each target as specified in the twelfth-grade reading framework.

35% Critique and Evaluate

These questions ask students to consider all or part of the text from a critical perspective and to make judgments about the way meaning is conveyed.

45% Integrate and Interpret

These questions move beyond a focus on discrete information and require readers to make connections across larger portions of text or to explain what they think about the text as a whole.

20% Locate and Recall

These questions focus on specific information contained in relatively small amounts of text and ask students to recognize what they have read.

Because the assessment covered a range of texts and included more questions than any one student could answer, each student took just a portion of the assessment. The 223 questions that made up the entire twelfth-grade reading assessment were distributed across 22 sets of passages and items. Each set typically comprised 10 questions, a mix of multiple choice and constructed response. Each student read and responded to questions in two 25-minute sets.

Reading Achievement-Level Descriptions for Grade 12

NAEP reading achievement-level descriptions present expectations of student performance in relation to a range of text types and text difficulty and in response to a variety of assessment questions intended to elicit different cognitive processes and reading behaviors. The specific processes and reading behaviors mentioned in the achievement-level descriptions are illustrative of those judged as central to students' successful comprehension of texts. These processes and reading behaviors involve different and increasing cognitive demands from one performance level to the next, as they are applied within more challenging contexts and with more complex information. While similar reading behaviors are included at the different performance levels, it should be understood that these skills are being described in relation to texts and assessment questions of varying difficulty.

The specific descriptions of what twelfth-graders should know and be able to do at the *Basic*, *Proficient*, and *Advanced* reading achievement levels are presented below. (Note: Shaded text is a short, general summary to describe performance at each achievement level.) NAEP achievement levels are cumulative; therefore, student performance at the *Proficient* level includes the competencies associated with the *Basic* level, and the *Advanced* level also includes the skills and knowledge associated with both the *Basic* and the *Proficient* levels. The cut score indicating the lower end of the score range for each level is noted in parentheses.

Basic (265)

Twelfth-grade students performing at the *Basic* level should be able to identify elements of meaning and form and relate them to the overall meaning of the text. They should be able to make inferences, develop interpretations, make connections between texts, and draw conclusions; and they should be able to provide some support for each. They should be able to interpret the meaning of a word as it is used in the text.

When reading **literary** texts such as fiction, literary nonfiction, and poetry, twelfth-grade students performing at the *Basic* level should be able to describe essential literary elements such as character, narration, setting, and theme; provide examples to illustrate how an author uses a story element for a specific effect; and provide interpretations of figurative language.

When reading **informational** texts such as exposition, argumentation, and documents, twelfth-grade students performing at the *Basic* level should be able to identify the organization of a text, make connections between ideas in two different texts, locate relevant information in a document, and provide some explanation for why the information is included.

Proficient (302)

Twelfth-grade students performing at the *Proficient* level should be able to locate and integrate information using sophisticated analyses of the meaning and form of the text. These students should be able to provide specific text support for inferences, interpretative statements, and comparisons within and across texts.

When reading **literary** texts such as fiction, literary nonfiction, and poetry, twelfth-grade students performing at the *Proficient* level should be able to explain a theme and integrate information from across a text to describe or explain character motivations, actions, thoughts, or feelings. They should be able to provide a description of settings, events, or character, and connect the description to the larger theme of a text. Students performing at this level should be able to make and compare generalizations about different characters' perspectives within and across texts.

When reading **informational** texts including exposition, argumentation, and documents, twelfth-grade students performing at the *Proficient* level should be able to integrate and interpret texts to provide main ideas with general support from the text. They should be able to evaluate texts by forming judgments about an author's perspective, about the relative strength of claims, and about the effectiveness of organizational elements or structures. Students performing at this level should be able to understand an author's intent and evaluate the effectiveness of arguments within and across texts. They should also be able to comprehend detailed documents to locate relevant information needed for specified purposes.

Advanced (346)

Twelfth-grade students performing at the *Advanced* level should be able to analyze both the meaning and the form of the text and provide complete, explicit, and precise text support for their analyses with specific examples. They should be able to read across multiple texts for a variety of purposes, analyzing and evaluating them individually and as a set.

When reading **literary** texts such as fiction, poetry, and literary nonfiction, twelfth-grade students performing at the *Advanced* level should be able to analyze and evaluate how an author uses literary devices, such as sarcasm or irony, to enhance and convey meaning. They should be able to determine themes and explain thematic connections across texts.

When reading **informational** texts, twelfth-grade students performing at the *Advanced* level should be able to recognize, use, and evaluate argumentation and expository text structures and the organization of documents. They should be able to critique and evaluate arguments and counterarguments within and between texts, and substantiate analyses with full and precise evidence from the text. They should be able to identify and integrate essential information within and across documents.

What Twelfth-Graders Know and Can Do in Reading

The item map below illustrates the range of reading comprehension skills demonstrated by twelfth-graders. The scale scores on the left represent the scores for students who were likely to get the items correct or complete. The cut score at the lower end of the range for each achievement level is shown in a box on the scale. The descriptions of selected assessment questions indicating what students need to do to answer the question correctly are listed on the right, along with the corresponding reading cognitive targets.

For example, students performing in the middle of the *Basic* range (with a score of 286) were likely to be able to integrate details across a story to recognize the description of the plot. Students performing in the middle of the *Proficient* range (with a score of 323) were likely to be able to recognize the meaning of a word within the context of the story.

GRADE 12 NAEP READING ITEM MAP

	Scale score	Cognitive target	Question description
	500		
	//		
Advanced	416	**Critique/evaluate**	Analyze a story to explain use of different genre elements
	408	**Critique/evaluate**	Support a generalization about language use in a document (**shown on page 23**)
	403	**Critique/evaluate**	Explain the relation between a paragraph and the author's main argument
	384	**Integrate/interpret**	Synthesize poetic details to derive and explain the theme of a poem
	374	**Integrate/interpret**	Synthesize story events to provide and explain the theme of a story
	367	**Integrate/interpret**	Interpret a paragraph within the context of a historical speech
	355	**Critique/evaluate**	Evaluate arguments across texts to judge their effectiveness
	347	**Critique/evaluate**	Evaluate information and support an opinion with specific text reference
	346		
Proficient	345	**Integrate/interpret**	Explain the change in a character's perspective with specific text support
	340	**Critique/evaluate**	Explain the effectiveness of an organization feature of a document
	338	**Integrate/interpret**	Analyze a story to provide a text-based description of a character
	333	**Critique/evaluate**	Evaluate arguments and justify reasoning with support from the text
	331	**Integrate/interpret**	*Recognize a generalization supported by information in two texts*
	323	**Integrate/interpret**	*Recognize the meaning of a word within the context of a story*
	320	**Integrate/interpret**	Explain the interrelated importance of two documents
	316	**Integrate/interpret**	Make a straightforward inference to explain why information is needed (**shown on page 22**)
	305	**Integrate/interpret**	Provide and explain information from an article
	302		
Basic	295	**Integrate/interpret**	Integrate details across a story to explain a character's motivation
	294	**Integrate/interpret**	*Recognize the interpretation of an author's point in a persuasive essay*
	286	**Locate/recall**	*Recognize information explicitly stated in a document* (**shown on page 21**)
	286	**Integrate/interpret**	*Integrate the details across a story to recognize the description of the plot*
	276	**Integrate/interpret**	*Recognize an inference about a main idea*
	272	**Integrate/interpret**	*Recognize an inference about an author's purpose in informational text*
	265		
	263	**Integrate/interpret**	*Recognize the meaning of a word in the context of a document* (**shown on page 21**)
	257	**Locate/recall**	*Recognize a character's feelings at a specific moment in a story*
	251	**Locate/recall**	*Recognize the motivation of a character in a literary essay*
	244	**Locate/recall**	*Recognize the paraphrase of a supporting idea in informational text*
	230	**Integrate/interpret**	*Recognize what an essay mainly describes*
	//		
	0		

NOTE: Regular type denotes a constructed-response question. *Italic* type denotes a multiple-choice question. The position of a question on the scale represents the scale score attained by students who had a 65 percent probability of successfully answering a constructed-response question, or a 74 percent probability of correctly answering a four-option multiple-choice question. For constructed-response questions, the question description represents students' performance at the highest scoring level. Scale score ranges for reading achievement levels are referenced on the map.
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Reading Assessment.

Grade 12 Sample Reading Passage

As part of the 2009 reading assessment, twelfth-graders were asked to answer a series of questions based on a housing rental agreement, which stipulates the responsibilities of landlord and tenant when renting an apartment. Selected sections of the agreement are shown below.

HOUSING RENTAL AGREEMENT

Address _____

_____

THIS AGREEMENT is made this _____ day of _____, by and between _____, herein called "Landlord," and _____, _____, _____, _____, herein called "Tenant." Landlord hereby agrees to rent to Tenant the real property located in the City of _____, State of _____, described as follows: _____. Lease commences on the 1st day of _____ and monthly thereafter until the _____ th day of _____, at which time this agreement is terminated. Landlord rents the demised property to Tenant on the following terms and conditions:

1. **Rent**
   Tenant agrees to pay Landlord as base rent the sum of $_____ per month, due and payable monthly in advance on the first day of each month during the term of this agreement. Rent must be received by 5:00 P.M. If the rent has not been received by 9:00 A.M. on the second of the month, then a seven (7) day notice will be posted.

2. **Payment of Rent**
   Monthly rent payments may be paid by check until the first check is dishonored and returned unpaid. Rent shall be made payable to _____ and hand delivered (or sent by mail at Tenant's risk) to Landlord at _____ _____. Any rents lost in the mail will be treated as if unpaid until received by Landlord.

View the complete document at http://nces.ed.gov/nationsreportcard/itmrlsx/landing.aspx.

5. **Appliances**
   The house is rented with the following appliances: Refrigerator and Stove. Other appliances that may be included in the rental property are the sole responsibility of Tenant to maintain. Landlord will not be responsible for the maintenance of these other appliances and does not warrant the condition of these appliances.

GO ON TO THE NEXT PAGE

6. Repair Policy

Tenant shall use customary diligence in care of the Property. All minor repairs are expected to be performed by or at the direction of Tenant, at the sole responsibility of Tenant. Any and all repairs made at the direction of Tenant shall be done by a competent professional, or by Tenant provided that Tenant is capable and qualified to make said repairs. All repairs shall be done in compliance with all applicable codes and regulations. Any repair that is estimated to cost more than fifty dollars ($50) must receive permission of Landlord prior to being made. Under no circumstances will Landlord be responsible for any improvements or repairs costing more than $50 unless Tenant is given written authorization to make repairs or improvements in advance.

View the complete document at http://nces.ed.gov/nationsreportcard/itmrlsx/landing.aspx.

12. Access to Property

Landlord reserves the right to enter the residence at reasonable times to inspect, make necessary repairs, supply services, or show it to prospective residents, purchasers, mortgagors, workers, or contractors. Whenever practicable, a 24-hour notice of Landlord's intent to enter shall be given to Tenant. Landlord may also display "for rent" and "for sale" signs on the building of which the rented residence is a part.

13. Full Disclosure

Tenant signing this Rental Agreement hereby states that all questions about this Rental Agreement have been answered, and that Tenant fully understands all the provisions of the agreement and the obligations and responsibilities of each party, as spelled out herein. Tenant further states that he/she agrees to fulfill Tenant's obligations in every respect or suffer the full legal and financial consequences of his/her actions or lack of action in violation of this agreement. Signature by Tenant on this Rental Agreement is acknowledgment of receipt of a signed copy of the Rental Agreement.

Accepted this _____ day of _____ .

_____ , Landlord

_____ , Tenant

_____ , Tenant

_____ , Tenant

_____ , Tenant

_____ , Tenant

Sample Questions:

Locate and Recall

This sample multiple-choice question from the 2009 reading assessment at grade 12 measures students' performance in recognizing explicit information from a highly detailed document. Seventy-one percent of twelfth-graders selected the correct response.

Percentage of twelfth-grade students in each response category: 2009

Choice A	Choice B	Choice C	Choice D	Omitted
11	71	7	9	1

NOTE: Detail may not sum to totals because of rounding.

The table below shows the percentage of twelfth-graders within each achievement level who answered this question correctly. For example, 73 percent of students performing at the *Basic* level selected the correct response.

Percentage correct for twelfth-grade students at each achievement level: 2009

Overall	Below *Basic*	At *Basic*	At *Proficient*	At *Advanced*
71	40	73	90	96

SAMPLE QUESTION:

According to the rental agreement, which of the following is the landlord required to do?

- (A) Maintain and repair air conditioning units
- (B) Provide a stove and refrigerator
- (C) Arrange for weekly trash disposal
- (D) Supply the tenant with multiple keys

Integrate and Interpret

This sample multiple-choice question measures students' performance in integrating and interpreting the language of a legal document. Students used their understanding of the section to identify the meaning of the word. Eighty-four percent of twelfth-graders selected the correct response.

Percentage of twelfth-grade students in each response category: 2009

Choice A	Choice B	Choice C	Choice D	Omitted
84	7	3	5	#

Rounds to zero.
NOTE: Detail may not sum to totals because of rounding.

The table below shows the percentage of twelfth-graders within each achievement level who answered this question correctly. For example, 87 percent of students performing at the *Basic* level selected the correct response.

Percentage correct for twelfth-grade students at each achievement level: 2009

Overall	Below *Basic*	At *Basic*	At *Proficient*	At *Advanced*
84	61	87	97	100

SAMPLE QUESTION:

In Section 12, the rental agreement states that the landlord can enter and show the house to "**prospective** residents." The agreement is referring to people who

- (A) are interested in living in the house
- (B) wish to make future improvements
- (C) lived in the house before
- (D) help the landlord do inspections

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Reading Assessment.

Sample Question: Integrate and Interpret

This sample extended constructed-response question measures twelfth-graders' performance in integrating and interpreting the language of a legal document for renting an apartment. Successful responses demonstrated understanding of the purpose and the implications of entering the tenant's name at the beginning and at the end of the document.

Student responses to this question were rated using four scoring levels.

Extensive responses correctly identified the two places where the tenant's name appears and explained what each indicates.

Essential responses correctly identified one or two places where the tenant's name appears and explained what one of them indicates.

Partial responses identified either one or both places where the tenant's name appears with no explanation of why or what the tenant's name indicates.

Unsatisfactory responses provided incorrect information or irrelevant details.

The first sample response on the right received a score of "Extensive." It correctly identifies the beginning and end as the two places where the name of the tenant needs to appear and correctly explains why the tenant's name must appear in both places. Forty-three percent of twelfth-graders received an "Extensive" rating on their responses to this question.

The second sample response received a score of "Essential." The response correctly identifies and explains that the tenant's name must appear at the end to show that the document has been read and agreed to. The first part of the response about the payment of rent section is incorrect. Twenty-seven percent of twelfth-graders received an "Essential" rating on their responses to this question.

Percentage of twelfth-grade students in each response category: 2009

Extensive	Essential	Partial	Unsatisfactory	Omitted
43	27	15	5	7

NOTE: Detail may not sum to totals because the percentage of responses rated as "Off-task" is not shown. Off-task responses are those that do not provide any information related to the assessment task.

The table below shows the percentage of twelfth-grade students within each achievement-level interval whose responses to this question were rated as "Extensive" or "Essential." For example, among the students assessed who answered this question, 66 percent of twelfth-graders performing at the *Proficient* level provided a response rated as "Extensive."

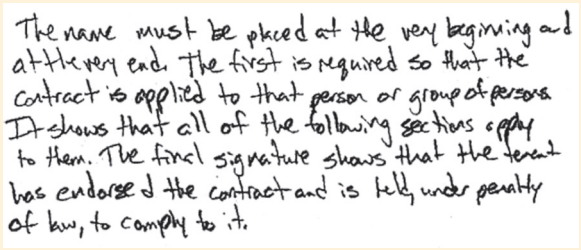
Percentage of answers rated as "Extensive" and "Essential" for twelfth-grade students at each achievement level: 2009

Scoring level	Overall	Below *Basic*	At *Basic*	At *Proficient*	At *Advanced*
Extensive	43	11	39	66	87
Essential	27	20	35	27	13

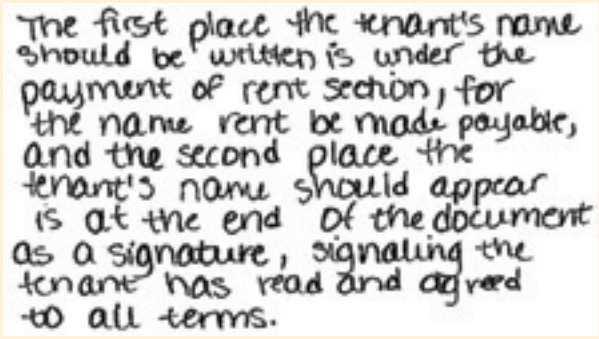
SAMPLE QUESTION:

The name of the tenant must be filled in on the rental agreement in two places. Identify the two places and explain why the name of the tenant needs to appear in each of them.

Extensive response:



Essential response:



SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Reading Assessment.

Sample Question: Critique and Evaluate

This sample short constructed-response question measures twelfth-graders' performance in critiquing the way language is used in a rental agreement document. Successful responses demonstrated understanding of how certain phrases actually gave the landlord more rights or qualified the landlord's responsibility.

Student responses to this question were rated using three scoring levels.

Full comprehension responses explained how the language of the section favors the landlord, and students provided an example from that section of the document to support their explanation.

Partial comprehension responses discussed the landlord's rights described in this section but did not explain how the language favors the landlord.

Little or no comprehension responses provided incorrect information or irrelevant details.

The sample student response below received a score of "Full comprehension" because it correctly explains how the vague terms give the landlord liberty to enter the residence at any time. Specific terms from the section are provided in the explanation. Seven percent of twelfth-graders received a rating of "Full comprehension" on their responses to this question.

Percentage of twelfth-grade students in each response category: 2009

Full comprehension	Partial comprehension	Little or no comprehension	Omitted
7	59	24	9

NOTE: Detail may not sum to totals because the percentage of responses rated as "Off-task" is not shown. Off-task responses are those that do not provide any information related to the assessment task.

The table below shows the percentage of students within each achievement level whose responses to the question were rated as "Full comprehension." For example, among the students who answered this question, 3 percent of twelfth-graders performing at the *Basic* level provided a response rated as "Full comprehension."

Percentage of answers rated as "Full comprehension" for twelfth-grade students at each achievement level: 2009

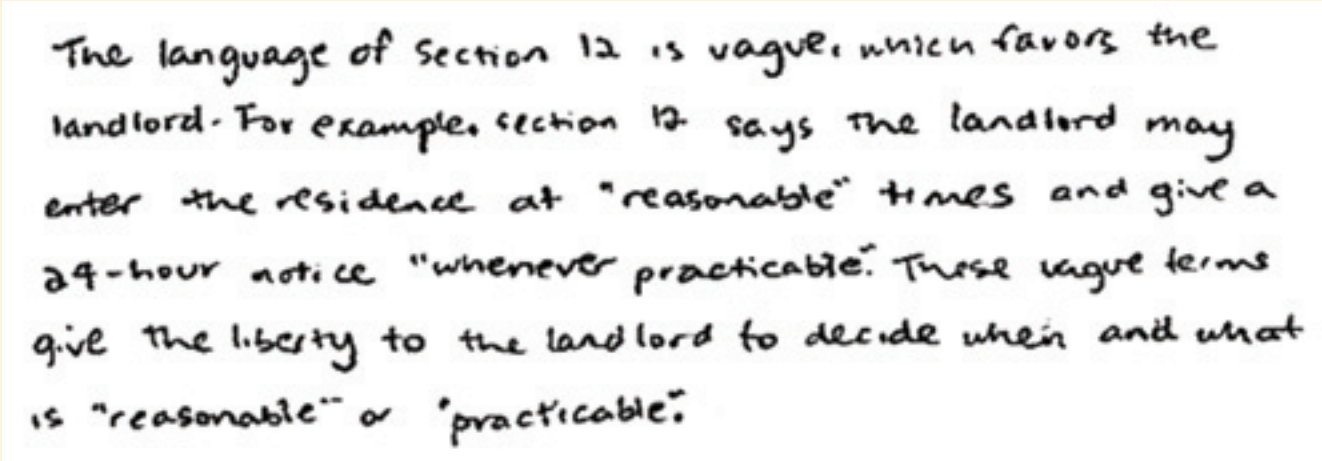
Overall	Below *Basic*	At *Basic*	At *Proficient*	At *Advanced*
7	#	3	12	34

Rounds to zero.

SAMPLE QUESTION:

Explain how the language used in Section 12 favors the landlord. Support your answer with an example from Section 12.

Full comprehension response:



SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Reading Assessment.

National Mathematics Results

Mathematics score higher than in 2005

The average mathematics score for the nation's twelfth-graders in 2009 was 3 points higher than in 2005. All racial/ethnic and gender groups made gains since 2005. Approximately one-quarter of students performed at or above the *Proficient* level in 2009, and about two-thirds performed at or above *Basic*.

Students who took more advanced mathematics courses scored higher on average than students who took lower-level courses, with those taking calculus scoring highest. Average scores also varied by students' expectations of their main activity after high school, with a higher average score for students expecting to attend a four-year college.

The Mathematics Framework

To ensure an appropriate balance of content, the *Mathematics Framework for the 2009 National Assessment of Educational Progress* specifies that each question in the grade 12 assessment measures one of four mathematical content areas—number properties and operations; measurement and geometry; data analysis, statistics, and probability; and algebra. Unlike the assessments for grades 4 and 8, the geometry and measurement content areas have been combined into one at grade 12 because the majority of measurement topics at this level are geometric in nature. The framework also defines levels of mathematical complexity to allow for a variety of ways of knowing and doing mathematics.

For 2009, the National Assessment Governing Board adopted a new mathematics framework that would better enable NAEP to report on how well-prepared twelfth-grade students are for postsecondary education and training. Analysis of the 2005 framework had revealed it would need revisions to meet that challenge. The goal of the new framework was an assessment that would measure the use of quantitative tools, mathematical reasoning, the essential mathematics required for postsecondary education and training, and the ability to integrate and apply mathematics in diverse problem-solving contexts. The content areas described in the 2009 framework are unchanged from 2005, but new subtopics addressing mathematical reasoning were added in each content area. A few objectives from the 2005 framework were eliminated or revised. Several new objectives included in the 2009 framework describe mathematics content that is beyond what is typically taught in a standard three-year course of study in high school (the equivalent of one year of geometry and two years of algebra).

Major changes in the framework for the 2005 assessment resulted in the content of the 2005 mathematics assessment being substantially different from the content of earlier assessments. A decision was made to establish a new trend in mathematics in 2005, and results from 2005 could not be compared to previous assessment years. However, results of a 2009 mathematics trend study determined that the 2009 grade 12 mathematics results could be compared to results from the 2005 assessment, even though additional changes were made to the framework for 2009. A summary of the special analyses conducted, which included a detailed comparison of the frameworks and test questions in addition to examining how the same students performed on the 2009 assessment and on questions from the earlier assessment that were readministered in 2009, is available at http://nces.ed.gov/nationsreportcard/mathematics/trend_study.asp.

Mathematics content areas

Number properties and operations measures students' knowledge and understanding of ways to represent, calculate, and estimate with real numbers, and students' ability to reason about numerical relationships. New objectives in this content area include properties of number systems and proof by mathematical induction.

Measurement and geometry assesses students' knowledge and understanding of units of measurement for such attributes as length, area, volume, angles, and rates; trigonometric relationships; shapes in two and three dimensions; relationships between shapes such as symmetry and transformations; and coordinate geometry and vectors; and students' ability to reason about geometric relationships. New objectives in this content area include topics in trigonometry, addition and multiplication of vectors, ellipses and hyperbolas, polar coordinates, and geometric proof.

Data analysis, statistics, and probability measures students' knowledge and understanding of data representation and analysis, statistical inference, experiments and samples, and probability, and students' ability to reason about results based on data and statistics. New objectives in this content area include data presented in spreadsheets, least-squares regression lines with a graphing calculator, the binomial theorem, and appropriate interpretations of data.

Algebra measures students' knowledge and understanding of functional relationships, algebraic representation, variables, expressions, equations, and inequalities, and students' ability to provide valid mathematical arguments. New objectives in this content area include logarithms, trigonometric functions, inverse functions, properties of functions, function notation, operations on functions, sums of arithmetic and geometric series, and logical reasoning.

Levels of mathematical complexity

The three levels of mathematical complexity (low, moderate, and high) described in the framework form an ordered description of the demands that questions make on students' thinking. Mathematical complexity involves *what* a question asks students to do, and *not how* they might undertake it. The complexity of a question is not directly related to its format, and therefore it is possible for some multiple-choice questions to assess complex mathematics and for some constructed-response (i.e., open-ended) questions to assess routine mathematical ideas.

Levels of Mathematical Complexity

Low complexity questions typically specify what a student is to do, which is often to carry out a routine mathematical procedure.

Moderate complexity questions involve more flexibility of thinking and often require a response with multiple steps.

High complexity questions make heavier demands and often require abstract reasoning or analysis in a novel situation.

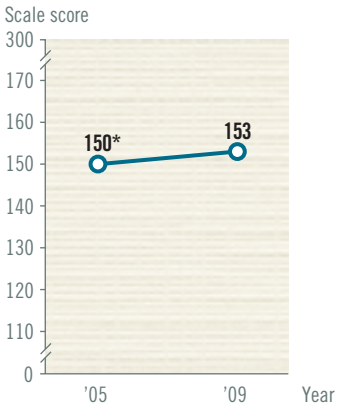
The complete mathematics framework for 2009 is available at http://nagb.org/publications/frameworks/math-framework09.pdf.

Mathematics score up 3 points since 2005

The average mathematics score for the nation's twelfth-graders was 3 points higher in 2009 than in 2005 (figure **11**).

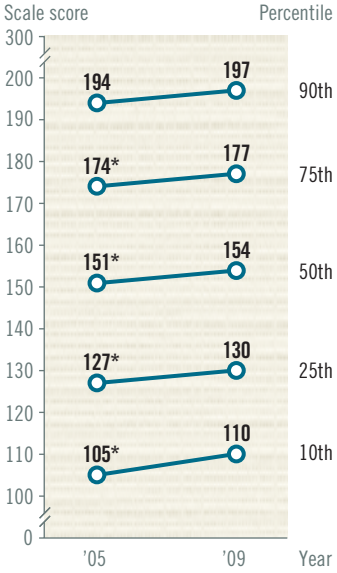
Scores increased across most of the performance distribution (figure **12**). In comparison to 2005, scores were higher for all but the highest performing students (those at the 90th percentile).

Figure **11.** Average scale scores in twelfth-grade NAEP mathematics: 2005 and 2009



* Significantly different ($p < .05$) from 2009.

Figure **12.** Percentile scores in twelfth-grade NAEP mathematics: 2005 and 2009

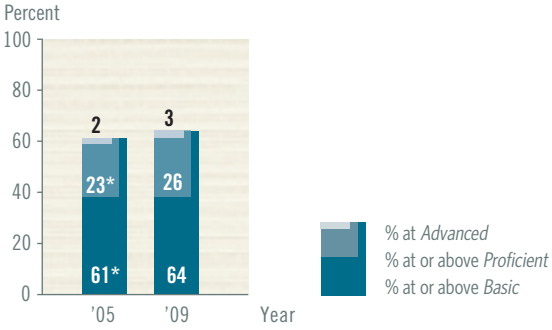


* Significantly different ($p < .05$) from 2009.

One-quarter of twelfth-graders perform at or above *Proficient*

Twenty-six percent of twelfth-graders performed at or above the *Proficient* level in mathematics in 2009. The percentages of students performing at or above *Proficient* and at or above *Basic* were higher in 2009 than in 2005 (figure **13**). The percentage of students performing at the *Advanced* level in 2009 did not change significantly from 2005.

Figure **13.** Achievement-level results in twelfth-grade NAEP mathematics: 2005 and 2009



* Significantly different ($p < .05$) from 2009.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2005 and 2009 Mathematics Assessments.

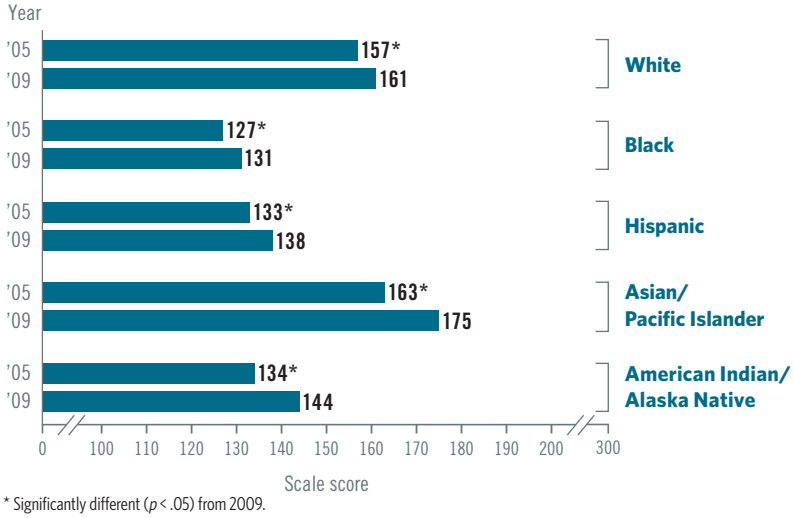
All racial/ethnic groups make gains since 2005

Just as the overall average mathematics score increased since 2005, average scores for White, Black, Hispanic, Asian/Pacific Islander, and American Indian/Alaska Native students were higher in 2009 than in 2005 (figure **14**). The average score for Asian/Pacific Islander students was up 13 points[1] from 2005, and the average score for American Indian/Alaska Native students was up 10 points over the same period.

In 2009, both White and Asian/Pacific Islander students scored higher on average than Black, Hispanic, and American Indian/Alaska Native students. The average score for Asian/Pacific Islander students was 14 points higher than the score for White students. Hispanic and American Indian/Alaska Native students scored higher on average than Black students.

[1] The score-point difference is based on the difference between the unrounded scores as opposed to the rounded scores shown in the figure.

Figure **14.** Average scale scores in twelfth-grade NAEP mathematics, by race/ethnicity: 2005 and 2009



* Significantly different ($p < .05$) from 2009.
NOTE: Black includes African American, Hispanic includes Latino, and Pacific Islander includes Native Hawaiian. Race categories exclude Hispanic origin.

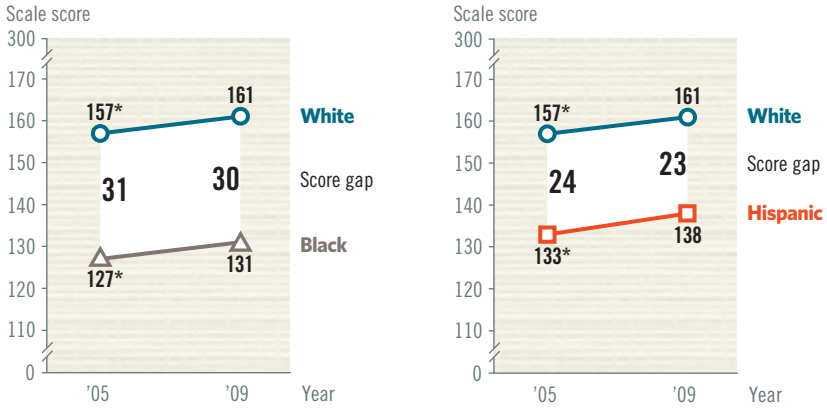
Racial/ethnic gaps persist

Score gaps persisted between White students and their Black and Hispanic peers in 2009 (figure **15**). With all three racial/ethnic groups making gains in 2009, neither the White – Black nor the White – Hispanic score gap in 2009 was significantly different from corresponding gaps in 2005.

Achievement-Level Results

Information is available on mathematics achievement-level results for racial/ethnic groups and other reporting categories at http://nationsreportcard.gov/math_2009/gr12_national.asp.

Figure **15.** Average scale scores and score gaps in twelfth-grade NAEP mathematics, by selected racial/ethnic groups: 2005 and 2009



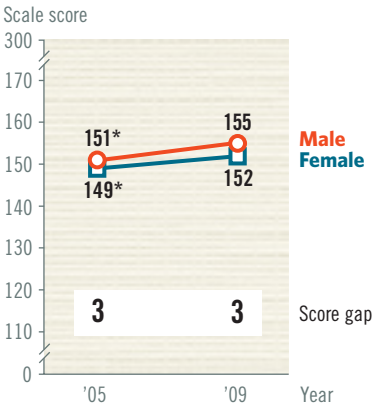
* Significantly different ($p < .05$) from 2009.
NOTE: Black includes African American, and Hispanic includes Latino. Race categories exclude Hispanic origin. Score gaps are calculated based on differences between unrounded average scores.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2005 and 2009 Mathematics Assessments.

Scores increase for both male and female students

Average mathematics scores increased from 2005 to 2009 for both male and female students (figure **16**). The 3-point score gap between male and female students in 2009 was unchanged from the gap in 2005.

Figure **16.** Average scale scores and score gaps in twelfth-grade NAEP mathematics, by gender: 2005 and 2009

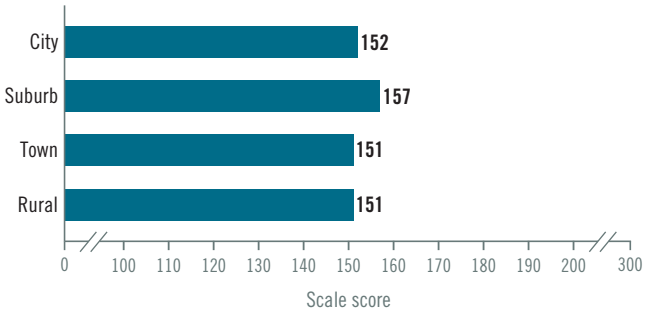


* Significantly different ($p < .05$) from 2009.
NOTE: Score gaps are calculated based on differences between unrounded average scores.

Performance varies based on school location

Students' performance on the mathematics assessment varied based on the location of the schools they attended (figure **17**). In 2009, students attending suburban schools scored higher on average than students attending schools in towns and rural locations, but not significantly different from students attending city schools. There were no significant differences among the average scores of students attending schools in cities, towns, and rural locations.

Figure **17.** Average scale scores in twelfth-grade NAEP mathematics, by school location: 2009



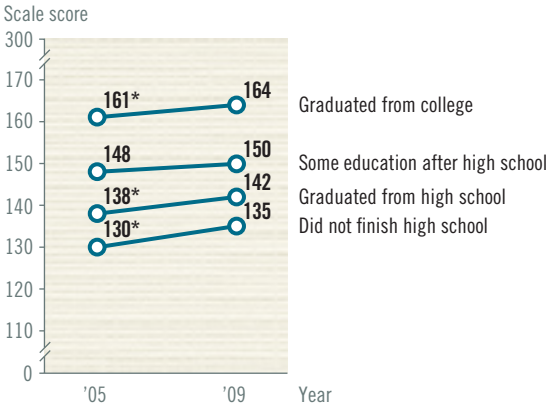
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2005 and 2009 Mathematics Assessments.

Higher levels of parental education associated with higher scores

In 2009, students who reported higher levels of parental education had higher average mathematics scores than those who reported lower levels (figure **18**). Students whose parents graduated from college scored higher than students whose parents had lower levels of education. Students whose parents did not finish high school scored lowest.

Average scores were higher in 2009 than in 2005 for students whose parents did not finish high school, graduated from high school, and graduated from college. The average score in 2009 for students whose parents had some education after high school was not significantly different from 2005.

Figure **18.** Average scale scores in twelfth-grade NAEP mathematics, by student-reported highest level of parental education: 2005 and 2009



* Significantly different ($p < .05$) from 2009.

Students taking advanced mathematics courses score higher

Twelfth-grade students assessed in mathematics in 2009 were asked what mathematics courses they had completed since eighth-grade. The results were collapsed into five categories based on the most advanced course the student had taken: calculus, pre-calculus, algebra II/trigonometry, geometry, and algebra I or lower.

Students completing higher-level courses had higher average mathematics scores (figure **19**). In 2009, students who reported taking a calculus class scored higher on average than students in other coursetaking categories. Similarly, students who had completed pre-calculus scored higher than students whose highest level courses were algebra II/trigonometry, geometry, or algebra I or lower. More coursetaking results can be found in the NAEP Data Explorer at http://nces.ed.gov/nationsreportcard/naepdata/.

Figure **19.** Average scale scores in twelfth-grade NAEP mathematics, by student-reported highest level mathematics course taken: 2009

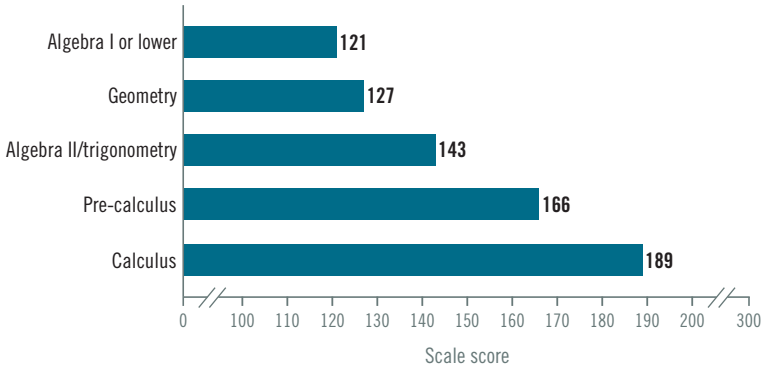


Table **5.** Percentage of students assessed in twelfth-grade NAEP mathematics, by student-reported highest level mathematics course taken: 2005 and 2009

Highest level mathematics course taken	2005	2009
Algebra I or lower	8*	5
Geometry	12*	10
Algebra II/trigonometry	41	42
Pre-calculus	21*	24
Calculus	18	18

* Significantly different ($p < .05$) from 2009.
NOTE: Detail may not sum to totals because of rounding.

A higher percentage of twelfth-graders in 2009 than in 2005 reported that pre-calculus was the highest level mathematics course taken (table **5**). Smaller percentages of students in 2009 reported the highest level course taken was either geometry or algebra I or lower.

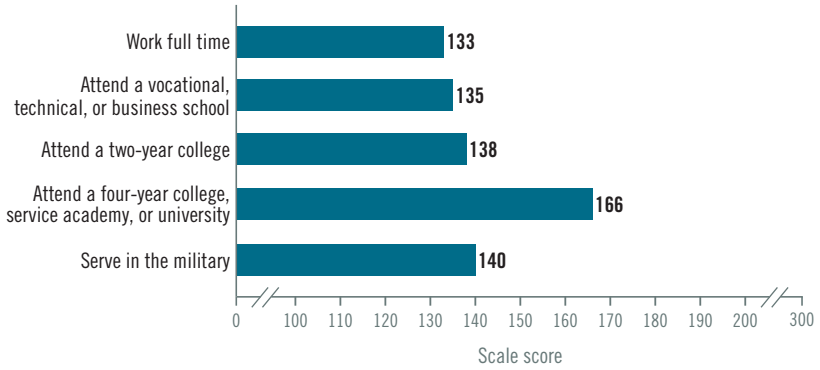
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2005 and 2009 Mathematics Assessments.

Scores vary by students' plans after high school

Twelfth-graders were asked what they expected their main activity to be the year after leaving high school. Students who expected that they would be attending a four-year college had higher mathematics scores on average than did students who expected to work full time, attend a vocational/business school, attend a two-year college, or serve in the military (figure **20**). The average scores of students who expected to work full time and those who expected to attend a vocational/business school were not significantly different from each other and were lower than the scores of students who had different expectations regarding their main activity after high school.

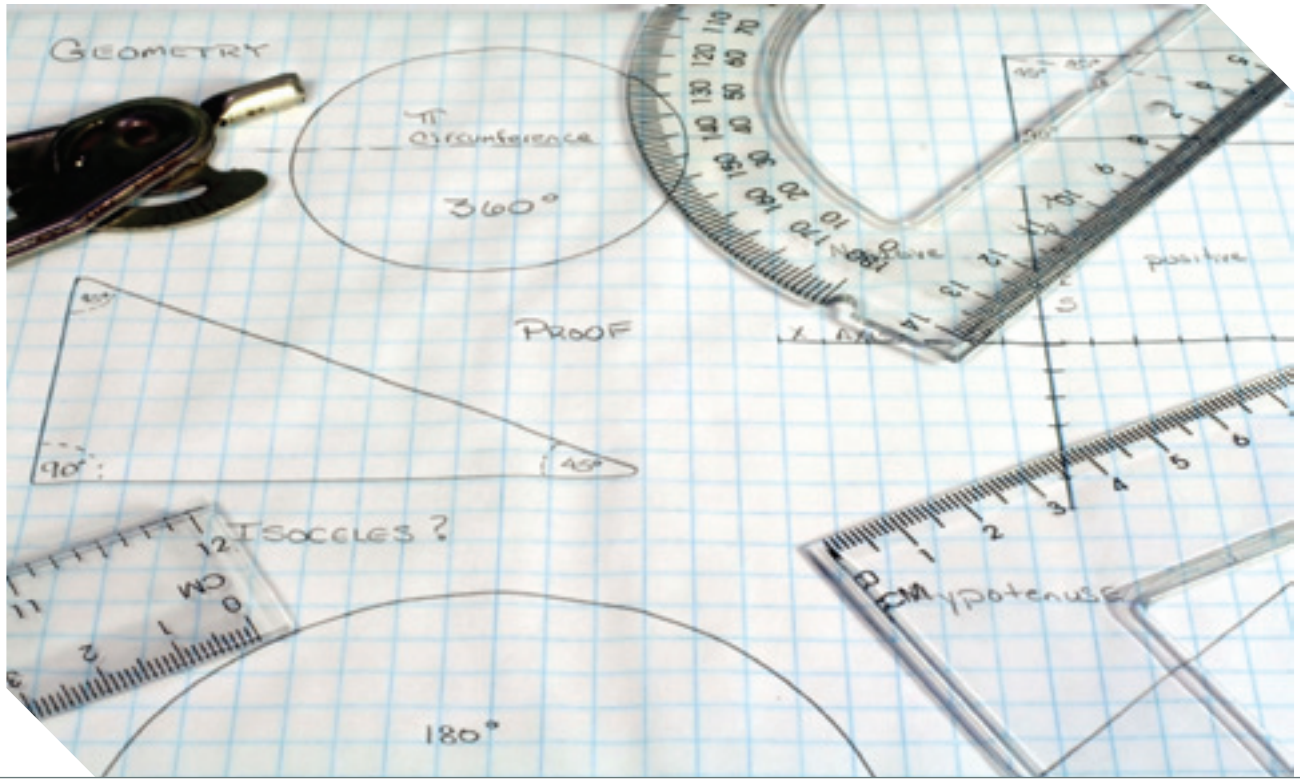
Almost two-thirds of students reported that they planned to attend a four-year college, service academy, or university. The percentage of students planning to attend a two-year college was larger than the percentages of students planning to work full time or attend a vocational/technical school.

Figure **20.** Average scale scores in twelfth-grade NAEP mathematics, by student-reported main activities they plan to do in the year after leaving high school: 2009



What do students plan to do in the year after leaving high school?

- 6% plan to work full time.
- 5% plan to attend vocational, technical, or business school.
- 19% plan to attend two-year college.
- 62% plan to attend four-year college, service academy, or university.
- 4% plan to serve in the military.



SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.

Assessment Content at Grade 12

The distribution of items among the four content areas reflects the relative emphasis in each area specified in the mathematics framework for grade 12. Some of the topics are beyond what is typically taught in a traditional three-year curriculum (the equivalent of one year of geometry and two years of algebra) and are included in the assessment with less frequency than other topics.

10%

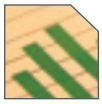
Number properties and operations

These questions focus on the real and complex number systems; various representations of numbers including absolute value, scientific notation, exponents and logarithms; estimation; numerical properties; and mathematical argument.

30%

Measurement and geometry

These questions focus on the measurement of area, volume, angles, and rates; properties of plane figures and solids; similarity, congruence, and transformation of shapes; analytic geometry; trigonometry; and geometric proof.



25%

Data analysis, statistics, and probability

These questions focus on organizing and summarizing data and comparing data sets; the design of experiments, analyzing statistical claims, and making inferences; techniques for fitting models to data; reasoning with data; and topics in probability including independence, dependence, and conditional probability.

35%

Algebra

These questions focus on functions, including linear, quadratic, power, exponential, and trigonometric; algebraic representations and translations between representations; manipulating and interpreting algebraic expressions; solving equations, inequalities, and systems of equations; and mathematical argument and logical reasoning.

The 348 questions that made up the entire twelfth-grade mathematics assessment were divided into 22 sections, each containing between 13 and 21 questions, depending on the balance between multiple-choice and constructed-response questions. Because the assessment included more questions than any one student could answer, each student took just a portion of the assessment and responded to questions in two 25-minute sections.

Some questions incorporated the use of a calculator, ruler/protractor, or other manipulatives that were provided. Twelfth-graders were permitted to use their own scientific or graphing calculator or were provided with a scientific calculator to use on approximately one-third of the assessment.

NAEP Mathematics Achievement-Level Descriptions for Grade 12

The specific descriptions of what twelfth-graders should know and be able to do at the *Basic*, *Proficient*, and *Advanced* mathematics achievement levels are presented below. (Note: Shaded text is a short, general summary to describe performance at each achievement level.) NAEP achievement levels are cumulative; therefore, student performance at the *Proficient* level includes the competencies associated with the *Basic* level, and the *Advanced* level also includes the skills and knowledge associated with both the *Basic* and the *Proficient* levels. The cut score indicating the lower end of the score range for each level is noted in parentheses.

Basic (141)

Twelfth-grade students performing at the *Basic* level should be able to solve mathematical problems that require the direct application of concepts and procedures in familiar mathematical and real-world settings.

Students performing at the *Basic* level should be able to compute, approximate, and estimate with real numbers, including common irrational numbers. They should be able to order and compare real numbers and be able to perform routine arithmetic calculations with and without a scientific calculator or spreadsheet. They should be able to use rates and proportions to solve numeric and geometric problems.

At this level, students should be able to interpret information about functions presented in various forms, including verbal, graphical, tabular, and symbolic. They should be able to evaluate polynomial functions and recognize the graphs of linear functions. Twelfth-grade students should also understand key aspects of linear functions, such as slope and intercepts.

These students should be able to extrapolate from sample results; calculate, interpret, and use measures of center; and compute simple probabilities.

Students at this level should be able to solve problems involving area and perimeter of plane figures, including regular and irregular polygons, and involving surface area and volume of solid figures. They should also be able to solve problems using the Pythagorean theorem and using scale drawings. Twelfth-graders performing at the *Basic* level should be able to estimate, calculate, and compare measures, as well as to identify and compare properties of two- and three-dimensional figures. They should be able to solve routine problems using two-dimensional coordinate geometry, including calculating slope, distance, and midpoint. They should also be able to perform single translations or reflections of geometric figures in a plane.

Proficient (176)

Twelfth-grade students performing at the *Proficient* level should be able to recognize when particular concepts, procedures, and strategies are appropriate, and to select, integrate, and apply them to solve problems. They should also be able to test and validate geometric and algebraic conjectures using a variety of methods, including deductive reasoning and counterexamples.

Twelfth-grade students performing at the *Proficient* level should be able to compute, approximate, and estimate the values of numeric expressions using exponents (including fractional exponents), absolute value, order of magnitude, and ratios. They should be able to apply proportional reasoning, when necessary, to solve problems in nonroutine settings, and to understand the effects of changes in scale. They should be able to predict how transformations, including changes in scale, of one quantity affect related quantities.

These students should be able to write equivalent forms of algebraic expressions, including rational expressions, and use those forms to solve equations and systems of equations. They should be able to use graphing tools and to construct formulas for spreadsheets; to use function notation; and to evaluate quadratic, rational, piecewise-defined, power, and exponential functions. At this level, students should be able to recognize the graphs and families of graphs of these functions and to recognize and perform transformations on the graphs of these functions. They should be able to use properties of these functions to model and solve problems in mathematical and real-world contexts, and they should understand the benefits and limits of mathematical modeling. Twelfth-graders performing at the *Proficient* level should also be able to translate between representations of functions, including verbal, graphical, tabular, and symbolic representations; to use appropriate representations to solve problems; and to use graphing tools and to construct formulas for spreadsheets.

Students performing at this level should be able to use technology to calculate summary statistics for distributions of data. They should be able to recognize and determine a method to select a simple random sample, identify a source of bias in a sample, use measures of center and spread of distributions to make decisions and predictions, describe the impact of linear transformations and outliers on measures of center, calculate combinations and permutations to solve problems, and understand the use of the normal distribution to describe real-world situations. Twelfth-grade students should be able to use theoretical probability to predict experimental outcomes involving multiple events.

These students should be able to solve problems involving right triangle trigonometry, use visualization in three dimensions, and perform successive transformations of a geometric figure in a plane. They should be able to understand the effects of transformations, including changes in scale, on corresponding measures and to apply slope, distance, and midpoint formulas to solve problems.

Advanced (216)

Twelfth-grade students performing at the *Advanced* level should demonstrate in-depth knowledge of and be able to reason about mathematical concepts and procedures. They should be able to integrate this knowledge to solve nonroutine and challenging problems, provide mathematical justifications for their solutions, and make generalizations and provide mathematical justifications for those generalizations. These students should reflect on their reasoning, and they should understand the role of hypotheses, deductive reasoning, and conclusions in geometric proofs and algebraic arguments made by themselves and others. Students should also demonstrate this deep knowledge and level of awareness in solving problems, using appropriate mathematical language and notation.

Students at this level should be able to reason about functions as mathematical objects. They should be able to evaluate logarithmic and trigonometric functions and recognize the properties and graphs of these functions. They should be able to use properties of functions to analyze relationships and to determine and construct appropriate representations for solving problems, including the use of advanced features of graphing calculators and spreadsheets.

These students should be able to describe the impact of linear transformations and outliers on measures of spread (including standard deviation), analyze predictions based on multiple data sets, and apply probability and statistical reasoning to solve problems involving conditional probability and compound probability.

Twelfth-grade students performing at the *Advanced* level should be able to solve problems and analyze properties of three-dimensional figures. They should be able to describe the effects of transformations of geometric figures in a plane or in three dimensions, to reason about geometric properties using coordinate geometry, and to do computations with vectors and to use vectors to represent magnitude and direction.

What Twelfth-Graders Know and Can Do in Mathematics

The item map below illustrates the range of mathematics knowledge and skills demonstrated by twelfth-graders. The scale scores on the left represent the scores for students who were likely to get the items correct. The cut score at the lower end of the range for each achievement level is shown in a box on the scale. The descriptions of selected assessment questions indicating what students need to do to answer the questions correctly are listed on the right, along with the corresponding mathematics content areas.

For example, students performing in the middle of the *Basic* range (with a score of 163) were likely to be able to determine a nonequivalent expression. Students performing in the middle of the *Proficient* range (with a score of 193) were likely to be able to use an algebraic model to solve a geometric problem.

GRADE 12 NAEP MATHEMATICS ITEM MAP

	Scale score	Content area	Question description
	300		
	//		
Advanced	235	**Algebra**	Find the annual rate of population growth (calculator available) (**shown on pages 36 and 37**)
	233	**Measurement and geometry**	*Identify the equation of an ellipse with a given property*
	230	**Algebra**	Solve an inequality involving absolute value
	226	**Data analysis, statistics, and probability**	Critique a misleading data graph
	224	**Algebra**	*Find the domain of a function in mathematical context*
	220	**Data analysis, statistics, and probability**	*Compare correlation coefficients from scatterplots* (calculator available)
	216	**Measurement and geometry**	Prove that a given figure is a parallelogram
	216		
Proficient	215	**Data analysis, statistics, and probability**	*Identify the linear equation that best fits the data in a scatterplot*
	209	**Measurement and geometry**	*Find the length of a diagonal in a 3-D figure*
	208	**Number properties and operations**	Determine the cost after multiple discounts (calculator available)
	199	**Measurement and geometry**	*Use trigonometry to find the height of an object* (calculator available) (**shown on page 35**)
	193	**Algebra**	Use an algebraic model to solve a geometric problem (calculator available)
	188	**Algebra**	Solve a system of linear equations
	186	**Data analysis, statistics, and probability**	*Identify an appropriate method for selecting a random sample* (**shown on page 38**)
	178	**Number properties and operations**	*Estimate the amount of time for a problem in context* (calculator available)
	176	**Measurement and geometry**	Recognize the dilation of a figure in the *xy*-plane
	176		
Basic	175	**Number properties and operations**	Give a counterexample to a numerical conjecture
	174	**Measurement and geometry**	*Use the scale on a map to determine distance* (ruler/protractor available)
	172	**Algebra**	*Identify an algebraic expression that models a scenario* (calculator available)
	171	**Number properties and operations**	*Multiply a 3-digit number by a decimal number* (**shown on page 34**)
	167	**Data analysis, statistics, and probability**	*Make a prediction from the data in a scatterplot*
	163	**Algebra**	*Determine a nonequivalent expression*
	147	**Measurement and geometry**	*Solve a problem involving area in context* (calculator available)
	145	**Data analysis, statistics, and probability**	Read a graph of normally distributed data
	144	**Data analysis, statistics, and probability**	*Determine a conditional probability in context*
	141		
	140	**Algebra**	*Identify the solution to a system of equations from a graph*
	136	**Measurement and geometry**	Draw a line of symmetry on a geometric figure (calculator available)
	125	**Number properties and operations**	*Solve a problem in context using a percentage* (calculator available)
	122	**Algebra**	*Evaluate the function at a point*
	121	**Number properties and operations**	*Solve a story problem using multiple operations* (calculator available)
	118	**Number properties and operations**	*Determine the distance on a map given the scale*
	111	**Measurement and geometry**	*Identify the property of parallel lines in the plane*
	//		
	0		

NOTE: Regular type denotes a constructed-response question. *Italic* type denotes a multiple-choice question. The position of a question on the scale represents the scale score attained by students who had a 65 percent probability of successfully answering a constructed-response question, or a 72 percent probability of correctly answering a five-option multiple-choice question. For constructed-response questions, the question description represents students' performance at the highest scoring level. Scale score ranges for mathematics achievement levels are referenced on the map.
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.

Sample Question: Number Properties and Operations

This sample multiple-choice question measures the performance of grade 12 students in the number properties and operations content area. The question assesses students' skill in performing arithmetic operations involving whole numbers and decimals. Students were not permitted to use a calculator to answer this question.

The correct answer to this question is 108 (Choice B). Two of the incorrect answer choices (Choice A and Choice E) are place-value errors resulting from the *incorrect placement of the decimal point* in the product. Choice C is the result of dividing 360 by 3, which would be obtained if 0.3 were incorrectly converted to the fraction $\frac{1}{3}$ (the exact value of $\frac{1}{3}$ is $0.\overline{3}$ = 0.333...). Choice D results from a combination of a multiplication error and a place-value error.

Sixty-four percent of twelfth-graders selected the correct answer for this question.

SAMPLE QUESTION:

$$360 \times 0.3 =$$

- (A) 10.8
- (B) 108
- (C) 120
- (D) 980
- (E) 1,080

Percentage of twelfth-grade students in each response category: 2009

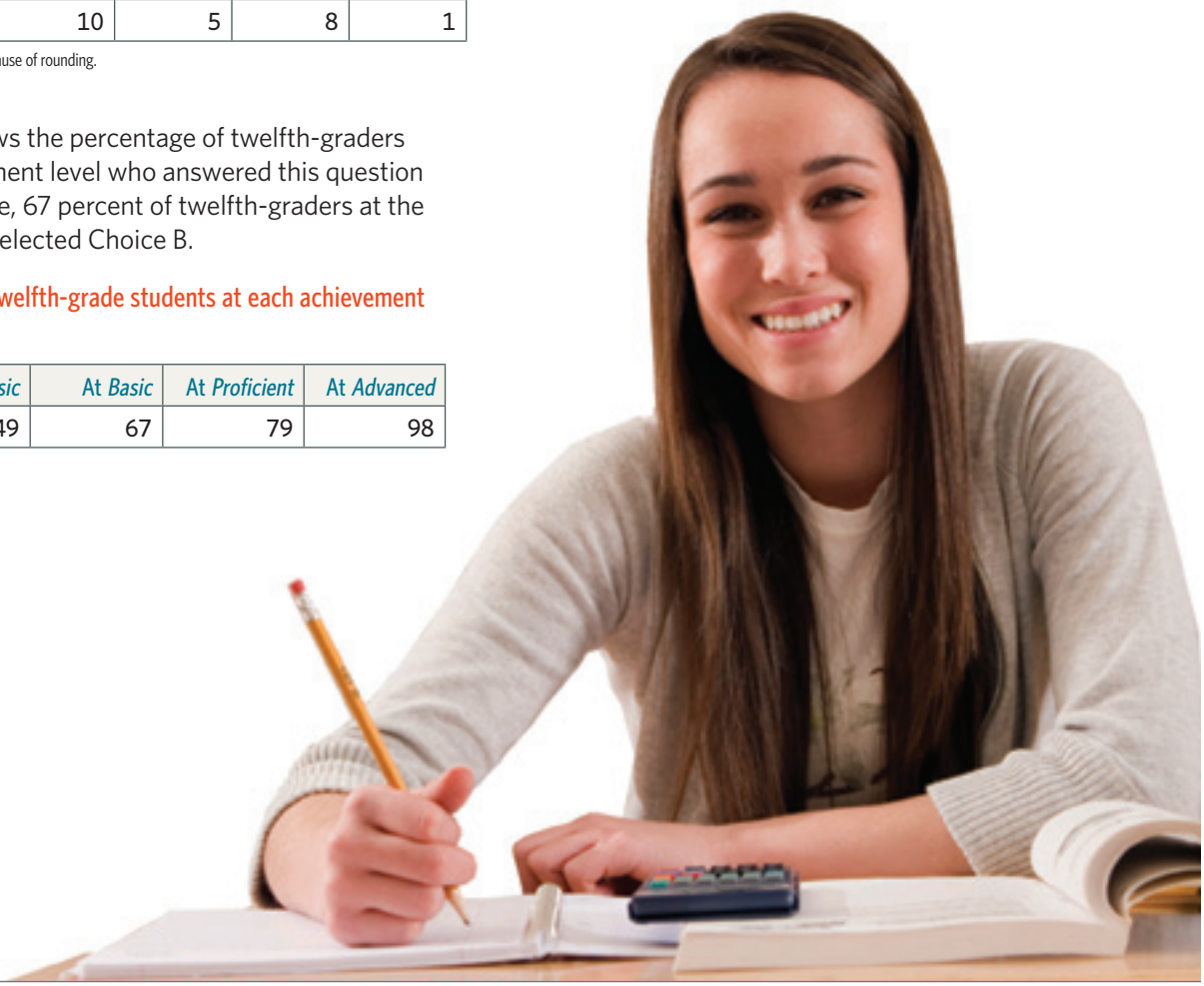
Choice A	Choice B	Choice C	Choice D	Choice E	Omitted
12	64	10	5	8	1

NOTE: Detail may not sum to totals because of rounding.

The table below shows the percentage of twelfth-graders within each achievement level who answered this question correctly. For example, 67 percent of twelfth-graders at the *Basic* level correctly selected Choice B.

Percentage correct for twelfth-grade students at each achievement level: 2009

Overall	Below *Basic*	At *Basic*	At *Proficient*	At *Advanced*
64	49	67	79	98



SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.

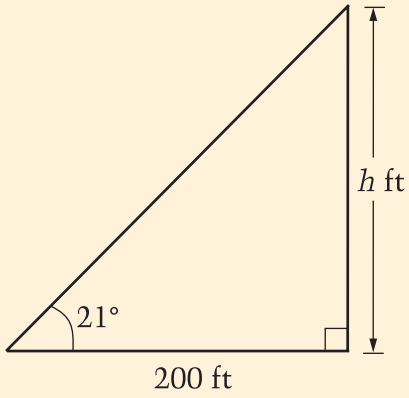
Sample Question: Measurement and Geometry

This sample twelfth-grade question in the measurement and geometry content area assesses the use of indirect measurement in triangles. The solution to this multiple-choice question is based on properties of right triangles. Students were permitted to use a scientific or graphing calculator to answer this question.

The correct answer (Choice B) can be found using a trigonometric relationship. Since *h* feet is the length of the leg opposite the given angle and 200 feet is the length of the leg adjacent to the given angle, the value of *h* can be found using the trigonometric ratio $\tan(21°) = \frac{h \text{ feet}}{200 \text{ feet}}$ or, equivalently, $h = 200 \cdot \tan(21°)$. Using a calculator to determine that $\tan(21°) \approx 0.384$, it follows that $h \approx 0.384 \times 200 = 76.8$. Rounding this to the nearest foot gives the correct answer of 77. The most common incorrect answer (Choice C) is the value of $200 \cdot \cos(21°)$. Choice A is the value of $200 \cdot \sin(21°)$. Choice D can be obtained by incorrectly using the two values given in the question in the Pythagorean Theorem ($\sqrt{200^2 + 21^2} \approx 201$). Choice E is the value of $\frac{200}{\tan(21°)}$.

This question was answered correctly by 30 percent of twelfth-grade students.

SAMPLE QUESTION:



Note: Figure not drawn to scale.

On level ground from a distance of 200 feet, the angle of elevation to the top of a building is 21°, as shown in the figure above. What is the height *h* of the building, to the nearest foot?

(A) 72
(B) 77
(C) 187
(D) 201
(E) 521

Percentage of twelfth-grade students in each response category: 2009

Choice A	Choice B	Choice C	Choice D	Choice E	Omitted
9	30	24	23	10	4

NOTE: Detail may not sum to totals because of rounding.

The table below shows the percentage of twelfth-graders within each achievement level who answered this question correctly. For example, 59 percent of twelfth-graders at the *Proficient* level selected the correct answer for this question.

Percentage correct for twelfth-grade students at each achievement level: 2009

Overall	Below *Basic*	At *Basic*	At *Proficient*	At *Advanced*
30	16	23	59	95

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.

Sample Question: Algebra

This sample constructed-response question measures student performance in the algebra content area. The question is based on an algebraic representation for exponential growth. Students were permitted to use a calculator to answer this question.

There are two parts to this question. Part (a) of this question can be answered by recognizing that 1990 corresponds to the value $t = 0$ and then determining that $P = 50{,}000(1 + r)^0 = 50{,}000 \cdot 1 = 50{,}000$. Part (b) of this question can be answered by recognizing that 2001 is 11 years after 1990 and corresponds to the value $t = 11$. Solving the equation $100{,}000 = 50{,}000(1 + r)^{11}$ for r, the correct answer can be presented either as an exact value, $r = \sqrt[11]{2} - 1$, or as an approximation, $r = 0.065$ or 6.5%. Student responses that ranged from 6 to 7 percent were given credit for part (b).

Student responses to this question were rated as "Correct," "Partial," or "Incorrect" as described below. Note that two different types of partially correct responses were captured during scoring.

Correct responses correctly answered both parts of the question.

Partial 1 responses correctly answered part (a) only.

Partial 2 responses correctly answered part (b) only.

Incorrect responses did not answer either part correctly.

The sample student response on the right was rated "Correct," with answers of "50,000 people" for part (a) and "$r \approx .065$" for part (b). Although it is not required, this response shows complete work for both parts of the question.

SAMPLE QUESTION:

The population P of a certain town is given by the equation $P = 50{,}000(1 + r)^t$, where r is the annual rate of population increase and t is the number of years since 1990.

Correct response:

(a) What was the population in 1990 ?

Answer: 50000 people

$t = 0 \quad P = 50000(1+r)^0$

$P = 50000(1)$

(b) In 2001 the population was 100,000. What was the annual rate of population increase?

Answer: $r \approx .065$

$P = 50000(1+r)^t$

$100000 = 50000(1+r)^{11}$

$2 = (1+r)^{11}$

$\sqrt[11]{2} = 1+r$

$\sqrt[11]{2} - 1 = r$

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.

The first sample student response on the right was rated "Partial 1," with a correct answer of "50,000" for part (a) and an incorrect answer of "$\sqrt[19]{2} - 1$" for part (b), which results from using an incorrect value of $t = 19$. The second sample response was rated "Partial 2," with an incorrect answer of "72,000" for part (a) and a correct answer of "6%" for part (b). No work is shown in this response.

Nine percent of twelfth-grade students correctly answered both parts of the question, and the responses were rated "Correct." Forty-six percent of the responses correctly answered part (a)—these were responses that were rated "Partial 1." One percent of the responses that did not correctly answer part (a) were able to correctly answer part (b), which were rated "Partial 2."

Percentage of twelfth-grade students in each response category: 2009

Correct	Partial 1	Partial 2	Incorrect	Omitted
9	46	1	34	8

NOTE: Detail may not sum to totals because the percentage of responses rated as "Off-task" is not shown. Off-task responses are those that do not provide any information related to the assessment task.

The table below shows the percentage of twelfth-graders within each achievement level whose answers were rated as "Correct" or "Partial" for this question. The results for "Partial 1" and "Partial 2" were combined into a single "Partial" category. For example, 31 percent of twelfth-graders at the *Proficient* level provided answers that were rated as "Correct," and 59 percent of twelfth-graders at the *Proficient* level provided answers that were rated as "Partial."

Percentage of answers rated as "Correct" and "Partial" for twelfth-grade students at each achievement level: 2009

Scoring level	Overall	Below *Basic*	At *Basic*	At *Proficient*	At *Advanced*
Correct	9	#	2	31	71
Partial	47	30	58	59	28

Rounds to zero.

SAMPLE QUESTION:

The population P of a certain town is given by the equation $P = 50{,}000(1 + r)^t$, where r is the annual rate of population increase and t is the number of years since 1990.

Partial 1 response:

(a) What was the population in 1990 ?

Answer: 50000

$50000(1+r)^{19}$

$50000(1+r^{19})$

$0 = 50000 + 50000r^{19}$

(b) In 2001 the population was 100,000. What was the annual rate of population increase?

Answer: $\sqrt[19]{2} - 1$

$\frac{100000}{50000} = \frac{50000(1+r)^{19}}{50000}$

$2 = (1+r)^{19}$

$\sqrt[19]{2} = 1 + r$

-1

Partial 2 response:

(a) What was the population in 1990 ?

Answer: 72,000

(b) In 2001 the population was 100,000. What was the annual rate of population increase?

Answer: 6%

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.

Sample Question: Data Analysis, Statistics, and Probability

This sample multiple-choice question measures the performance of grade 12 students in the data analysis, statistics, and probability content area. The question assesses understanding of the design of a simple random sample. Students were not permitted to use a calculator to answer this question.

An appropriate sample for this survey is a random sample that includes students who have stopped buying food in the school's cafeteria. There is likely to be a variety of reasons for the decline in cafeteria use. To make an accurate probabilistic statement about the decline, the sample must not be biased by the overrepresentation or underrepresentation of any particular group; that is, it must be a random sample from the general population.

Among the choices presented, the correct answer (Choice C) provides the best method since it favors no particular group. Choice A and Choice B are samples of particular subgroups in the school, and they are not likely to be representative of all students in the school. For example, students in the senior class might be permitted to leave school at lunchtime. Choice D is limited to students who eat in the cafeteria and therefore may not be representative of students who no longer choose to buy food from the cafeteria. Choice E lacks an element of randomness in its design since it favors students who arrive early.

Sixty percent of students in twelfth grade selected the correct answer for this question.

Percentage of twelfth-grade students in each response category: 2009

Choice A	Choice B	Choice C	Choice D	Choice E	Omitted
5	2	60	30	3	#

Rounds to zero.
NOTE: Detail may not sum to totals because of rounding.

The table below shows the percentage of twelfth-graders within each achievement level who answered this question correctly. For example, 66 percent of twelfth-graders at the *Basic* level correctly selected Choice C.

Percentage correct for twelfth-grade students at each achievement level: 2009

Overall	Below *Basic*	At *Basic*	At *Proficient*	At *Advanced*
60	43	66	72	82

SAMPLE QUESTION:

The principal of a high school would like to determine why there has been a large decline during the year in the number of students who buy food in the school's cafeteria. To do this, 25 students from the school will be surveyed. Which method would be the most appropriate for selecting the 25 students to participate in the survey?

- (A) Randomly select 25 students from the senior class.
- (B) Randomly select 25 students from those taking physics.
- (C) Randomly select 25 students from a list of all students at the school.
- (D) Randomly select 25 students from a list of students who eat in the cafeteria.
- (E) Give the survey to the first 25 students to arrive at school in the morning.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.

State Results

While twelfth-grade results were only reported for the nation in previous assessment years, results from the 2009 reading and mathematics assessments are presented for the first time for twelfth-grade public school students in the following 11 states that volunteered to participate in the twelfth-grade state pilot program:

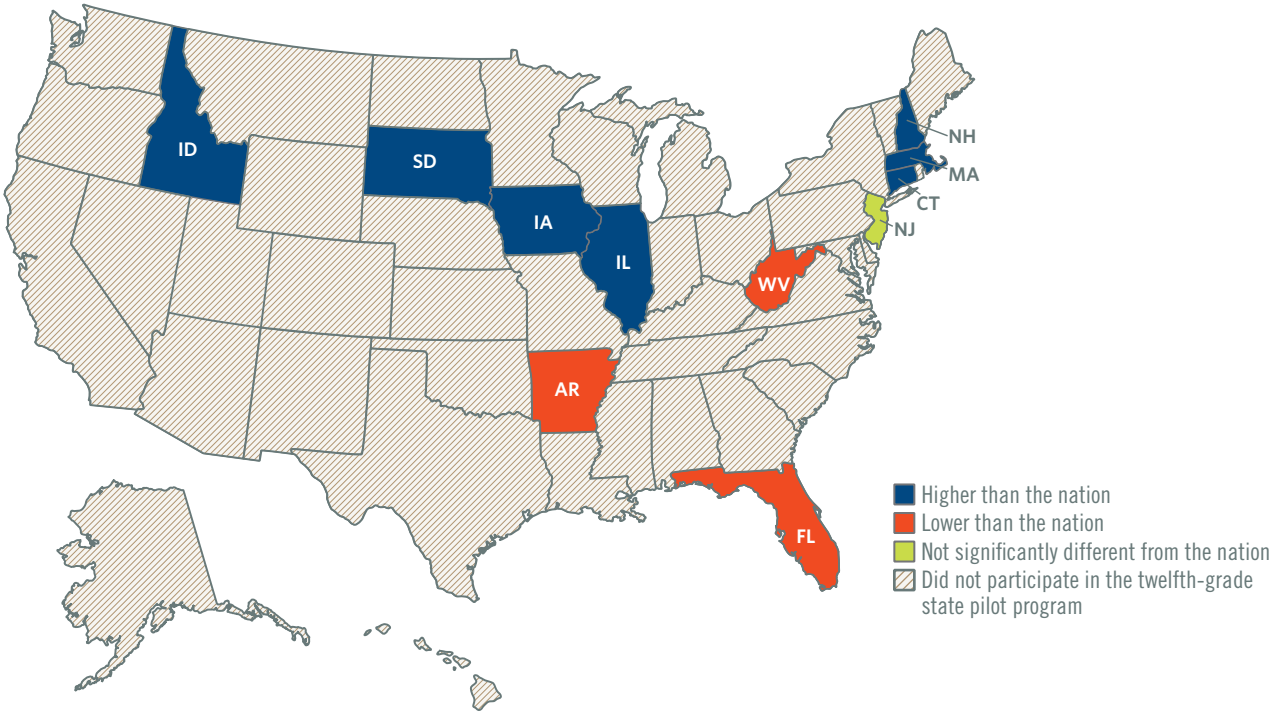
- Arkansas
- Connecticut
- Florida
- Idaho
- Illinois
- Iowa
- Massachusetts
- New Hampshire
- New Jersey
- South Dakota
- West Virginia

Various reasons were cited by NAEP state testing coordinators for participating in the pilot program. These included using NAEP results as a common yardstick for comparing twelfth-grade students in their state to students in the nation and in other pilot states, and establishing a benchmark for how their students are performing at the end of their high school careers.

Seven states score higher than the national average in reading

The map below shows how the average reading scores for twelfth-graders in the 11 participating states compare to the score for public school students in the nation (figure **21**). Average scores in seven states (Connecticut, Idaho, Illinois, Iowa, Massachusetts, New Hampshire, and South Dakota) were higher than the score for the nation, and scores for three states (Arkansas, Florida, and West Virginia) were lower. The average score for New Jersey was not significantly different from the score for the nation.

Figure **21.** Comparison of state and national average scale scores in NAEP reading for twelfth-grade public school students: 2009



SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Reading Assessment.

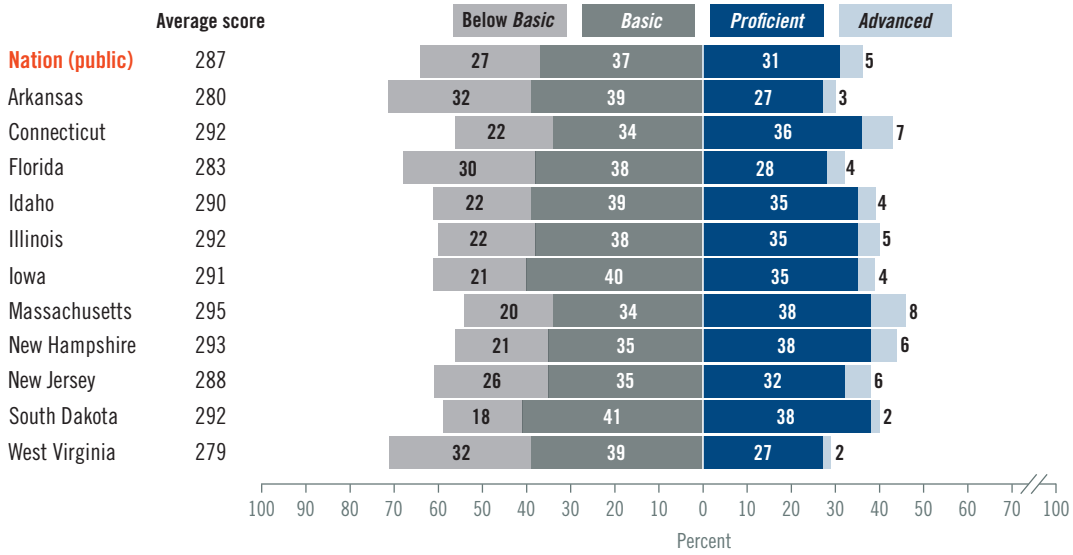
States show range of reading comprehension skills

Among the 11 states that participated in the 2009 state pilot, the percentages of students performing at or above the *Proficient* level in reading ranged from 29 percent in Arkansas and West Virginia to 46 percent in Massachusetts (figure **22**). All the states had some students performing at the *Advanced* level.

Four of the seven states with higher overall average scores than the score for the nation (Connecticut, Massachusetts, New Hampshire, and South Dakota) also had higher percentages of students performing at or above *Proficient*. The percentages of students at or above *Proficient* in Idaho, Illinois, Iowa, and New Jersey were not significantly different from the percentage for the nation, and the percentages in Arkansas, Florida, and West Virginia were lower.

Additional state reading results for grade 12 are provided in appendix tables **A-6** through **A-10**.

Figure **22.** Average scale scores and achievement-level results in NAEP reading for twelfth-grade public school students, by state/jurisdiction: 2009



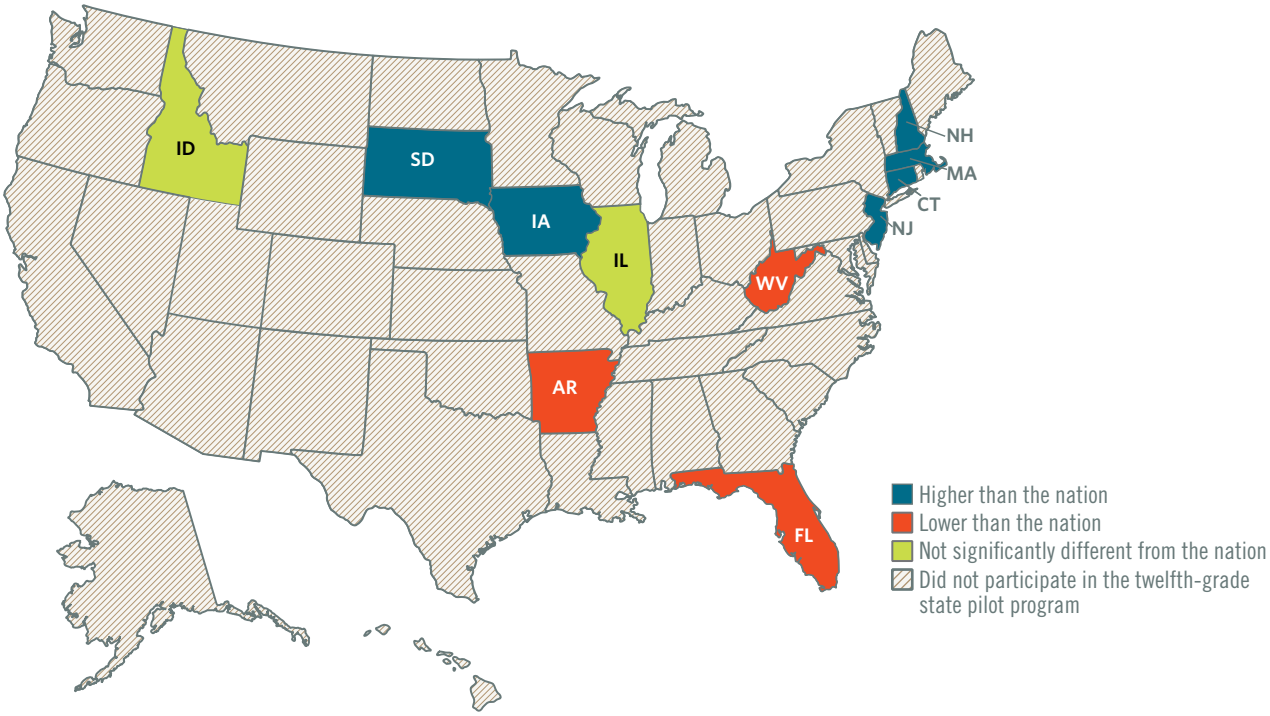
NOTE: Eleven states participated in the assessment and met the reporting criteria. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Reading Assessment.

Six states score higher than the nation in mathematics

The map below shows how the overall average mathematics scores for twelfth-graders in the 11 participating states compare to the score for public school students in the nation (figure **23**). Average scores in six states (Connecticut, Iowa, Massachusetts, New Hampshire, New Jersey, and South Dakota) were higher than the score for the nation, and scores for three states (Arkansas, Florida, and West Virginia) were lower. The average scores for Idaho and Illinois were not significantly different from the score for the nation.

Figure **23.** Comparison of state and national average scale scores in NAEP mathematics for twelfth-grade public school students: 2009



SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.

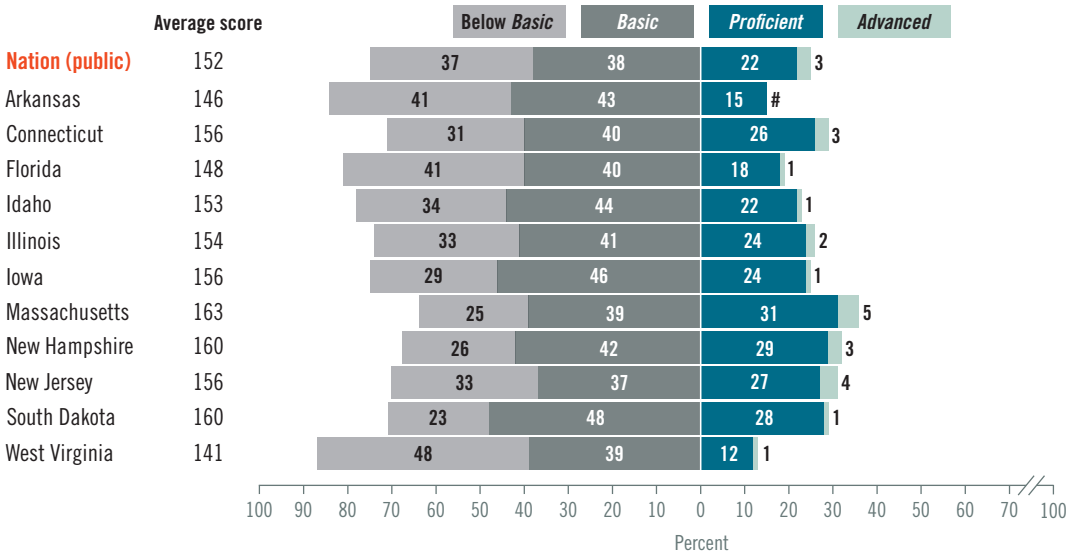
States show range of mathematics knowledge and skills

Among the 11 states that participated in the 2009 state pilot, the percentages of students performing at or above the *Proficient* level in mathematics ranged from 13 percent in West Virginia to 36 percent in Massachusetts (figure **24**).

Of the six states where overall scores were higher than the average score for the nation, five states (Connecticut, Massachusetts, New Hampshire, New Jersey, and South Dakota) also had higher percentages of students performing at or above the *Proficient* level. The percentages of students at or above *Proficient* in Idaho, Illinois, and Iowa were not significantly different from the percentage for the nation, and the percentages in Arkansas, Florida, and West Virginia were lower.

Additional state mathematics results for grade 12 are provided in appendix tables **A-16** through **A-20**.

Figure **24.** Average scale scores and achievement-level results in NAEP mathematics for twelfth-grade public school students, by state/jurisdiction: 2009



Rounds to zero.
NOTE: Eleven states participated in the assessment and met the reporting criteria. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.

States vary in demographic makeup

Information about the demographic makeup of twelfth-grade public school students in the nation and in the 11 participating states helps to provide context when making comparisons. (Because the percentages of students assessed in reading and mathematics are so similar, only the percentages of students assessed in mathematics are presented in the table below.) While White students made up 59 percent of twelfth-grade students in the nation, the percentage of White students in the participating states ranged from 51 percent in Florida to 94 percent in New Hampshire and West Virginia (table **6**). The percentage of Black students ranged from 1 percent in Idaho and New Hampshire to 22 percent in Arkansas, and the percentage of Hispanic students ranged from 1 percent in West Virginia to 24 percent in Florida.

The percentage of students attending schools in the suburbs in 2009 ranged from less than 1 percent in South Dakota to 78 percent in New Jersey. The states also varied in the percentage of students whose parents graduated from college. Thirty-eight percent of the students in Arkansas and West Virginia had parents who graduated from college, compared to 59 percent in Massachusetts and New Hampshire.

The participating states also differed from the nation in the percentage of students with disabilities (SD) and English language learners (ELL). Arkansas, Massachusetts, New Hampshire, New Jersey, and West Virginia had larger percentages of SD students than the nation overall, and Idaho had a lower percentage. Florida had a higher percentage of ELL students than the nation. The remaining participating states had lower percentages, except Arkansas where the percentage of ELL students was not significantly different from the nation.

Web-generated profiles or "snapshots" of state results are available for each participating state at http://nces.ed.gov/nationsreportcard/states/.

Table **6.** Percentage of twelfth-grade public school students assessed in NAEP mathematics, by state/jurisdiction and selected characteristics: 2009

Characteristic	Nation (public)	Arkansas	Connecticut	Florida	Idaho	Illinois	Iowa	Massachusetts	New Hampshire	New Jersey	South Dakota	West Virginia
Race/ethnicity												
White	**59**	70	71	51	86	64	90	78	94	57	89	94
Black	**16**	22	13	20	1	16	4	8	1	17	2	4
Hispanic	**18**	6	13	24	10	14	4	8	2	16	2	1
Asian/Pacific Islander	**6**	2	3	3	2	4	2	5	2	9	1	1
American Indian/Alaska Native	**1**	1	#	#	1	#	#	#	#	#	6	#
School location												
City	**28**	25	24	23	30	27	24	17	15	12	25	13
Suburb	**36**	10	56	53	16	51	7	68	40	78	#	15
Town	**12**	24	6	3	24	11	25	2	21	2	31	27
Rural	**24**	42	14	21	30	11	45	13	25	9	44	46
Parents' highest education level												
Did not finish high school	**9**	9	5	9	8	8	3	6	4	5	3	7
Graduated from high school	**19**	25	18	19	17	18	18	16	17	17	15	29
Some education after high school	**22**	25	21	25	24	23	21	17	19	19	23	24
Graduated from college	**47**	38	54	43	49	48	55	59	59	55	58	38
Students with disabilities	**8**	10	8	8	7	9	8	10	14	12	7	13
English language learners	**3**	3	2	4	2	1	1	2	1	2	1	1

Rounds to zero.

NOTE: Eleven states participated in the assessment and met the reporting criteria. Black includes African American, Hispanic includes Latino, and Pacific Islander includes Native Hawaiian. Race categories exclude Hispanic origin. For the race/ethnicity category, results are not shown for students whose race/ethnicity was unclassified. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.



A Closer Look at State Reading Results

Even though scores for 7 of the 11 participating states were higher than the national average overall, not all student demographic groups in those states scored higher than their peers in the nation (table **7**). White students in Iowa and Hispanic students in Idaho scored lower on average than their peers in the nation, even though the overall scores in those states were higher.

Although the overall score in New Jersey was not significantly different from the national average, the score for Asian/Pacific Islander students in the state was higher than the score for Asian/Pacific Islander students nationally.

Table **7.** Average scale scores in NAEP reading for twelfth-grade public school students, by selected characteristics and state/jurisdiction: 2009

		Race/ethnicity					Gender		Parents' highest education level	
State/jurisdiction	Overall	White	Black	Hispanic	Asian/ Pacific Islander	American Indian/ Alaska Native	Male	Female	Did not finish high school	Graduated from college
Nation (public)	**287**	**295**	**268**	**273**	**298**	**283**	**281**	**293**	**269**	**297**
Arkansas	280*	287*	259*	269	‡	‡	271*	289*	265	288*
Connecticut	292*	301*	265	273	296	‡	285*	300*	269	304*
Florida	283*	289*	269	277	296	‡	276*	289*	266	291*
Idaho	290*	293	‡	267*	‡	‡	285*	296*	266	299
Illinois	292*	299*	273	276	308	‡	286*	297	271	302*
Iowa	291*	292*	273	278	295	‡	284*	298*	269	296
Massachusetts	295*	299*	273	273	303	‡	290*	301*	267	305*
New Hampshire	293*	293	‡	‡	‡	‡	284	302*	265	302*
New Jersey	288	295	268	273	307*	‡	282	294	266	299
South Dakota	292*	294	‡	‡	‡	276	286*	299*	264	297
West Virginia	279*	279*	275	‡	‡	‡	271*	288*	256*	290*

‡ Reporting standards not met. Sample size insufficient to permit a reliable estimate.

* Significantly different ($p < .05$) from the nation.

NOTE: Eleven states participated in the assessment and met the reporting criteria. Black includes African American, Hispanic includes Latino, and Pacific Islander includes Native Hawaiian. Race categories exclude Hispanic origin. For the parents' highest education level category, results are shown for the lowest and highest education levels reported by students.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Reading Assessment.



A Closer Look at State Mathematics Scores

Even though the overall average score in Florida was lower than the national average, Hispanic students in that state scored higher than their peers in the nation (table **8**).

The average score for Hispanic students in Idaho was lower than the score for Hispanic students nationally, even though the overall score for Idaho was not significantly different from the national average.

Table **8.** Average scale scores in NAEP mathematics for twelfth-grade public school students, by selected characteristics and state/jurisdiction: 2009

State/jurisdiction	Overall	Race/ethnicity					Gender		Parents' highest education level	
		White	Black	Hispanic	Asian/ Pacific Islander	American Indian/ Alaska Native	Male	Female	Did not finish high school	Graduated from college
Nation (public)	**152**	**160**	**131**	**137**	**175**	**145**	**154**	**151**	**134**	**163**
Arkansas	146*	154*	121*	136	‡	‡	146*	146*	137	154*
Connecticut	156*	165*	131	132	173	‡	157	156*	133	169*
Florida	148*	156*	133	142*	165	‡	150*	146*	136	156*
Idaho	153	155*	‡	131*	‡	‡	153	152	130	160
Illinois	154	162	130	141	171	‡	156	153	134	164
Iowa	156*	158*	138	134	‡	‡	156	156*	135	163
Massachusetts	163*	167*	135	137	176	‡	162*	163*	138	173*
New Hampshire	160*	161	‡	‡	‡	‡	161*	160*	134	169*
New Jersey	156*	165*	134	139	179	‡	157	156*	135	167*
South Dakota	160*	162*	‡	‡	‡	140	160*	159*	134	165
West Virginia	141*	142*	121*	‡	‡	‡	142*	141*	123*	153*

‡ Reporting standards not met. Sample size insufficient to permit a reliable estimate.
* Significantly different ($p < .05$) from the nation.
NOTE: Eleven states participated in the assessment and met the reporting criteria. Black includes African American, Hispanic includes Latino, and Pacific Islander includes Native Hawaiian. Race categories exclude Hispanic origin. For the parents' highest education level category, results are shown for the lowest and highest education levels reported by students.

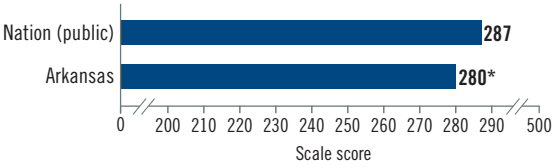
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.

State Profiles

Individual state profiles provide a closer look at some key findings for twelfth-grade public school students in each state that participated in the 2009 state pilot program, including how states' average scores, percentile scores, and achievement-level performance compare with the nation. In addition, information from the student NAEP questionnaires provides a context for interpreting results for reading and mathematics.

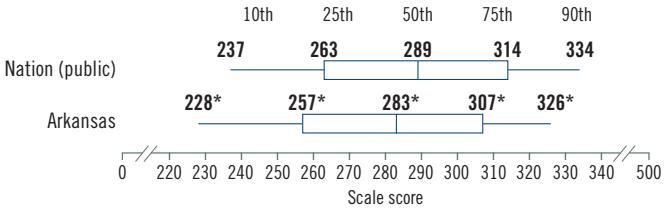
Reading

Average scale scores in NAEP reading for twelfth-grade public school students in the nation and Arkansas: 2009



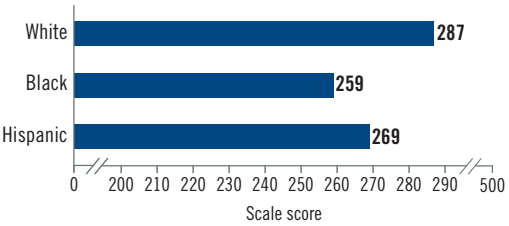
* Significantly different ($p < .05$) from the nation.

Percentile scores in NAEP reading for twelfth-grade public school students in the nation and Arkansas: 2009



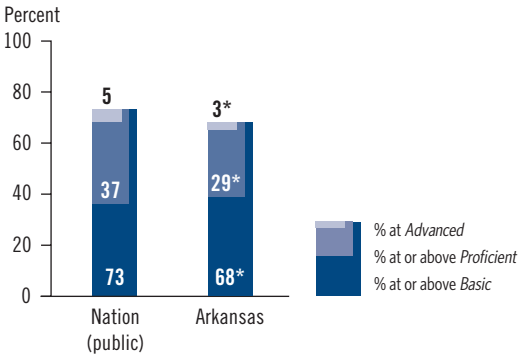
* Significantly different ($p < .05$) from the nation.

Average scale scores in NAEP reading for twelfth-grade public school students in Arkansas, by race/ethnicity: 2009



NOTE: Results are not shown for all race/ethnicity categories because of insufficient sample sizes. Black includes African American, and Hispanic includes Latino. Race categories exclude Hispanic origin.

Achievement-level results in NAEP reading for twelfth-grade public school students in the nation and Arkansas: 2009



* Significantly different ($p < .05$) from the nation.

For Arkansas twelfth-graders in 2009,

- the overall average reading score of 280 was lower than the score for the nation.

Percentile score results showed

- a lower score at the 25th percentile compared to the nation.
- a lower score at the 75th percentile compared to the nation.

Results for racial/ethnic groups showed

- a White – Black score gap of 28 points.
- a White – Hispanic score gap of 18 points.

Results for parental education level showed

- a 23-point score gap between students who reported neither of their parents finished high school and those who reported at least one parent graduated from college.
- no significant difference in the score gap compared to the 28-point score gap for the nation.

Results for how often students wrote long answers to questions that involved reading

- 33% wrote long answers at least once a week.
- 38% wrote long answers once or twice a month.
- 22% wrote long answers once or twice a year.
- 7% never wrote long answers.

What is the highest level of education students plan to complete?

- 18% plan to go to graduate school.
- 62% plan to graduate from college.
- 10% plan to complete some education after high school.
- 7% plan to graduate from high school.
- 1% do not plan to finish high school.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Reading Assessment.

Arkansas

Mathematics

For Arkansas twelfth-graders in 2009,

- the overall average mathematics score of 146 was lower than the score for the nation.

Percentile score results showed

- a lower score at the 25th percentile compared to the nation.
- a lower score at the 75th percentile compared to the nation.

Results for racial/ethnic groups showed

- a White – Black score gap of 33 points.
- a White – Hispanic score gap of 18 points.

Results for parental education level showed

- a 17-point score gap between students who reported neither of their parents finished high school and those who reported at least one parent graduated from college.
- a smaller score gap compared to the 29-point score gap for the nation.

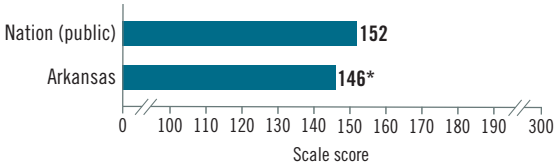
Results for the highest level mathematics course taken by students showed

- 10% took calculus.
- 24% took pre-calculus.
- 53% took algebra II/trigonometry.
- 11% took geometry.
- 2% took algebra I or lower.

What do students plan to do in the year after leaving high school?

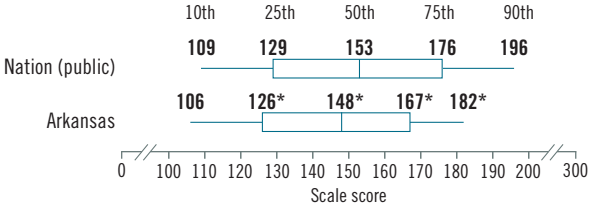
- 9% plan to work full time.
- 7% plan to attend vocational, technical, or business school.
- 16% plan to attend two-year college.
- 58% plan to attend four-year college, service academy, or university.
- 5% plan to serve in the military.

Average scale scores in NAEP mathematics for twelfth-grade public school students in the nation and Arkansas: 2009



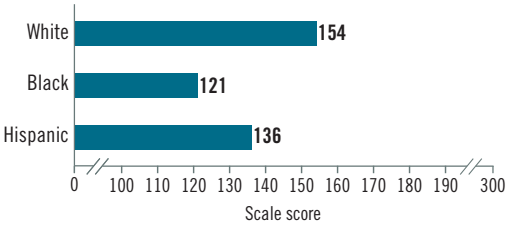
* Significantly different ($p < .05$) from the nation.

Percentile scores in NAEP mathematics for twelfth-grade public school students in the nation and Arkansas: 2009



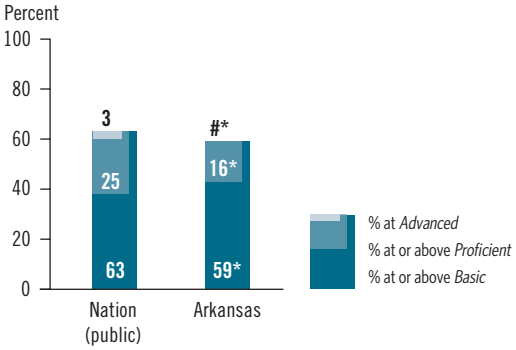
* Significantly different ($p < .05$) from the nation.

Average scale scores in NAEP mathematics for twelfth-grade public school students in Arkansas, by race/ethnicity: 2009



NOTE: Results are not shown for all race/ethnicity categories because of insufficient sample sizes. Black includes African American, and Hispanic includes Latino. Race categories exclude Hispanic origin.

Achievement-level results in NAEP mathematics for twelfth-grade public school students in the nation and Arkansas: 2009

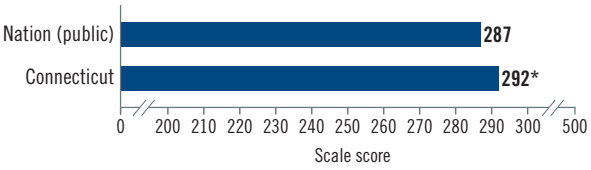


Rounds to zero.
* Significantly different ($p < .05$) from the nation.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.

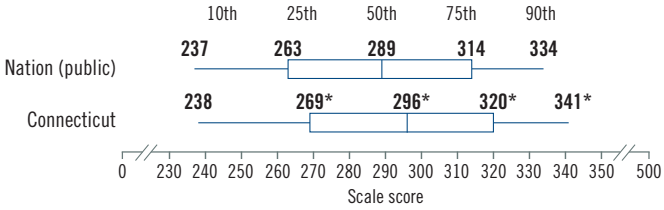
Reading

Average scale scores in NAEP reading for twelfth-grade public school students in the nation and Connecticut: 2009



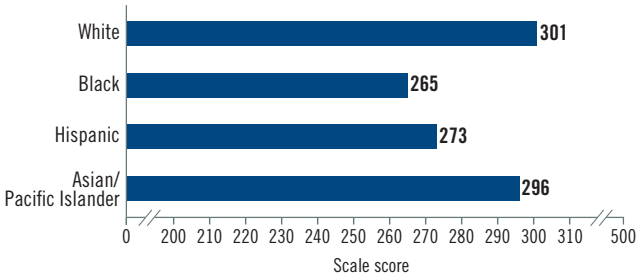
* Significantly different ($p < .05$) from the nation.

Percentile scores in NAEP reading for twelfth-grade public school students in the nation and Connecticut: 2009



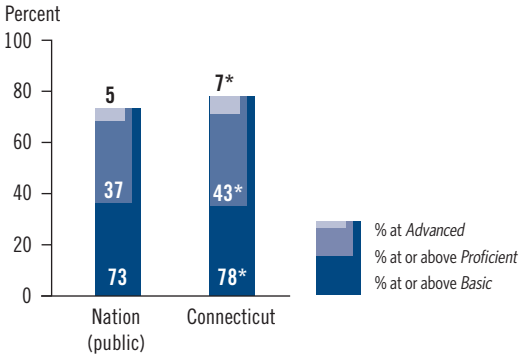
* Significantly different ($p < .05$) from the nation.

Average scale scores in NAEP reading for twelfth-grade public school students in Connecticut, by race/ethnicity: 2009



NOTE: Results are not shown for all race/ethnicity categories because of insufficient sample sizes. Black includes African American, Hispanic includes Latino, and Pacific Islander includes Native Hawaiian. Race categories exclude Hispanic origin.

Achievement-level results in NAEP reading for twelfth-grade public school students in the nation and Connecticut: 2009



* Significantly different ($p < .05$) from the nation.

For Connecticut twelfth-graders in 2009,

- the overall average reading score of 292 was higher than the score for the nation.

Percentile score results showed

- a higher score at the 25th percentile compared to the nation.
- a higher score at the 75th percentile compared to the nation.

Results for racial/ethnic groups showed

- a White – Black score gap of 36 points.
- a White – Hispanic score gap of 27 points.[2]

[2] The score gap is based on the difference between the unrounded scores as opposed to the rounded scores shown in the figure.

Results for parental education level showed

- a 34-point score gap between students who reported neither of their parents finished high school and those who reported at least one parent graduated from college.
- no significant difference in the score gap compared to the 28-point score gap for the nation.

Results for how often students wrote long answers to questions that involved reading

- 42% wrote long answers at least once a week.
- 39% wrote long answers once or twice a month.
- 16% wrote long answers once or twice a year.
- 3% never wrote long answers.

What is the highest level of education students plan to complete?

- 31% plan to go to graduate school.
- 56% plan to graduate from college.
- 6% plan to complete some education after high school.
- 4% plan to graduate from high school.
- 1% do not plan to finish high school.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Reading Assessment.

Connecticut

Mathematics

For Connecticut twelfth-graders in 2009,

- the overall average mathematics score of 156 was higher than the score for the nation.

Percentile score results showed

- a higher score at the 25th percentile compared to the nation.
- a higher score at the 75th percentile compared to the nation.

Results for racial/ethnic groups showed

- a White – Black score gap of 33 points.[3]
- a White – Hispanic score gap of 32 points.[3]

[3] The score gap is based on the difference between the unrounded scores as opposed to the rounded scores shown in the figure.

Results for parental education level showed

- a 36-point score gap between students who reported neither of their parents finished high school and those who reported at least one parent graduated from college.
- no significant difference in the score gap compared to the 29-point score gap for the nation.

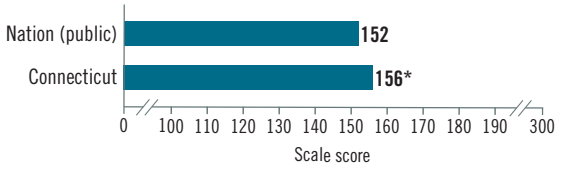
Results for the highest level mathematics course taken by students showed

- 18% took calculus.
- 30% took pre-calculus.
- 40% took algebra II/trigonometry.
- 8% took geometry.
- 4% took algebra I or lower.

What do students plan to do in the year after leaving high school?

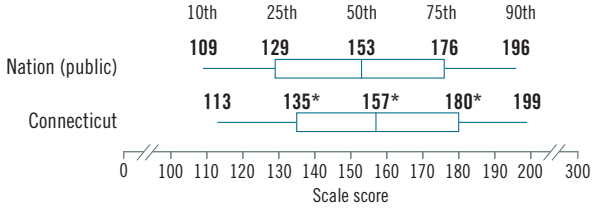
- 7% plan to work full time.
- 3% plan to attend vocational, technical, or business school.
- 12% plan to attend two-year college.
- 71% plan to attend four-year college, service academy, or university.
- 3% plan to serve in the military.

Average scale scores in NAEP mathematics for twelfth-grade public school students in the nation and Connecticut: 2009



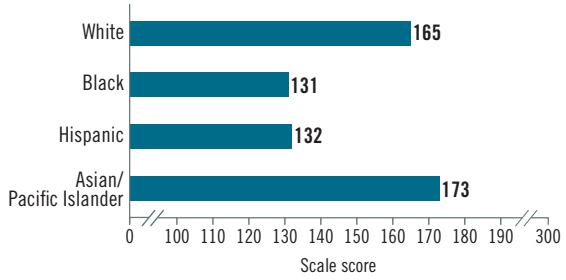
* Significantly different ($p < .05$) from the nation.

Percentile scores in NAEP mathematics for twelfth-grade public school students in the nation and Connecticut: 2009



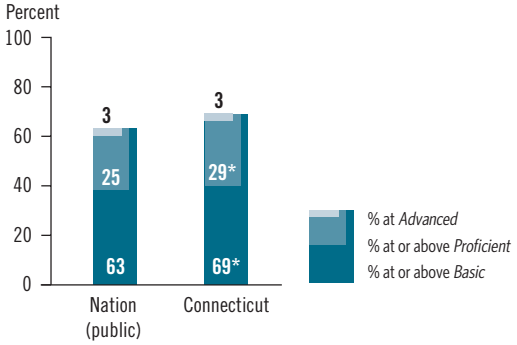
* Significantly different ($p < .05$) from the nation.

Average scale scores in NAEP mathematics for twelfth-grade public school students in Connecticut, by race/ethnicity: 2009



NOTE: Results are not shown for all race/ethnicity categories because of insufficient sample sizes. Black includes African American, Hispanic includes Latino, and Pacific Islander includes Native Hawaiian. Race categories exclude Hispanic origin.

Achievement-level results in NAEP mathematics for twelfth-grade public school students in the nation and Connecticut: 2009

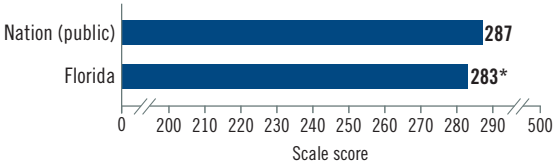


* Significantly different ($p < .05$) from the nation.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.

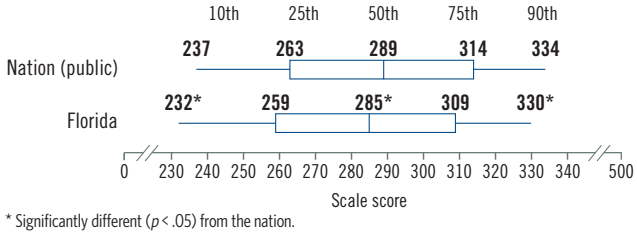
Reading

Average scale scores in NAEP reading for twelfth-grade public school students in the nation and Florida: 2009



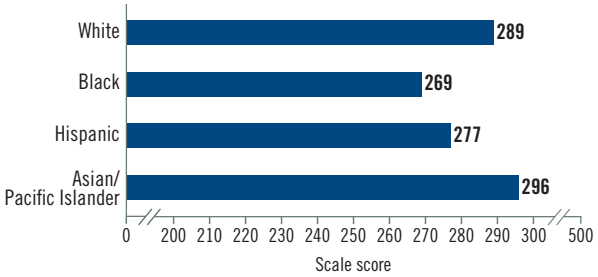
* Significantly different ($p < .05$) from the nation.

Percentile scores in NAEP reading for twelfth-grade public school students in the nation and Florida: 2009



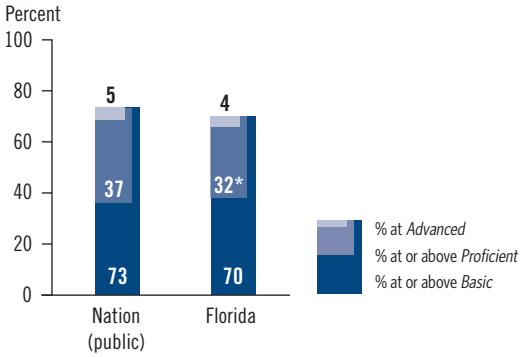
* Significantly different ($p < .05$) from the nation.

Average scale scores in NAEP reading for twelfth-grade public school students in Florida, by race/ethnicity: 2009



NOTE: Results are not shown for all race/ethnicity categories because of insufficient sample sizes. Black includes African American, Hispanic includes Latino, and Pacific Islander includes Native Hawaiian. Race categories exclude Hispanic origin.

Achievement-level results in NAEP reading for twelfth-grade public school students in the nation and Florida: 2009



* Significantly different ($p < .05$) from the nation.

For Florida twelfth-graders in 2009,

- the overall average reading score of 283 was lower than the score for the nation.

Percentile score results showed

- no significant difference in the score at the 25th percentile compared to the nation.
- no significant difference in the score at the 75th percentile compared to the nation.

Results for racial/ethnic groups showed

- a White – Black score gap of 20 points.
- a White – Hispanic score gap of 12 points.

Results for parental education level showed

- a 25-point score gap between students who reported neither of their parents finished high school and those who reported at least one parent graduated from college.
- no significant difference in the score gap compared to the 28-point score gap for the nation.

Results for how often students wrote long answers to questions that involved reading

- 34% wrote long answers at least once a week.
- 35% wrote long answers once or twice a month.
- 23% wrote long answers once or twice a year.
- 7% never wrote long answers.

What is the highest level of education students plan to complete?

- 25% plan to go to graduate school.
- 60% plan to graduate from college.
- 7% plan to complete some education after high school.
- 4% plan to graduate from high school.
- 1% do not plan to finish high school.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Reading Assessment.

Florida

Mathematics

For Florida twelfth-graders in 2009,

- the overall average mathematics score of 148 was lower than the score for the nation.

Percentile score results showed

- no significant difference in the score at the 25th percentile compared to the nation.
- a lower score at the 75th percentile compared to the nation.

Results for racial/ethnic groups showed

- a White – Black score gap of 23 points.
- a White – Hispanic score gap of 14 points.

Results for parental education level showed

- a 20-point score gap between students who reported neither of their parents finished high school and those who reported at least one parent graduated from college.
- a smaller score gap compared to the 29-point score gap for the nation.

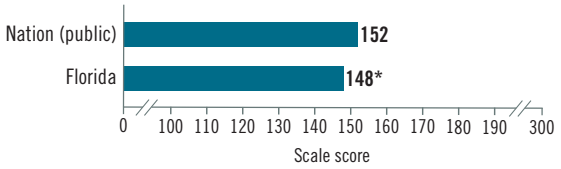
Results for the highest level mathematics course taken by students showed

- 12% took calculus.
- 17% took pre-calculus.
- 56% took algebra II/trigonometry.
- 13% took geometry.
- 2% took algebra I or lower.

What do students plan to do in the year after leaving high school?

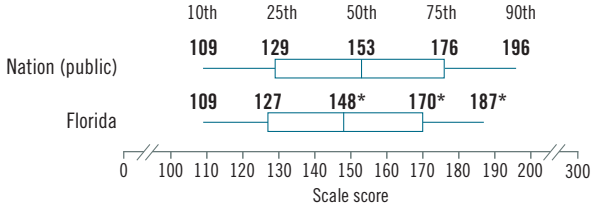
- 5% plan to work full time.
- 6% plan to attend vocational, technical, or business school.
- 22% plan to attend two-year college.
- 57% plan to attend four-year college, service academy, or university.
- 6% plan to serve in the military.

Average scale scores in NAEP mathematics for twelfth-grade public school students in the nation and Florida: 2009



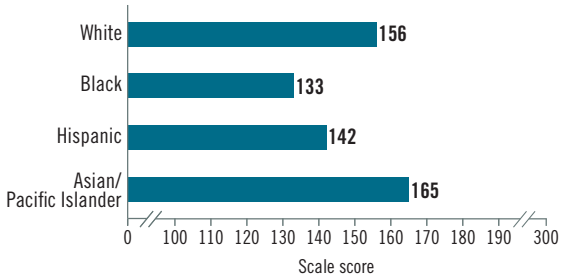
* Significantly different ($p < .05$) from the nation.

Percentile scores in NAEP mathematics for twelfth-grade public school students in the nation and Florida: 2009



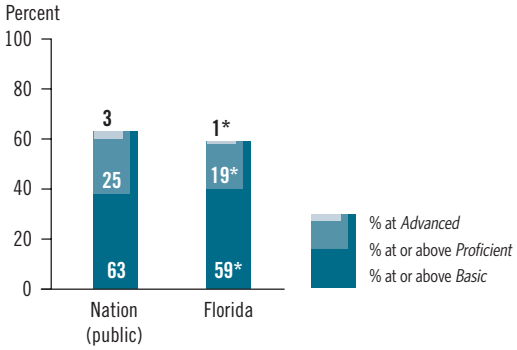
* Significantly different ($p < .05$) from the nation.

Average scale scores in NAEP mathematics for twelfth-grade public school students in Florida, by race/ethnicity: 2009



NOTE: Results are not shown for all race/ethnicity categories because of insufficient sample sizes. Black includes African American, Hispanic includes Latino, and Pacific Islander includes Native Hawaiian. Race categories exclude Hispanic origin.

Achievement-level results in NAEP mathematics for twelfth-grade public school students in the nation and Florida: 2009

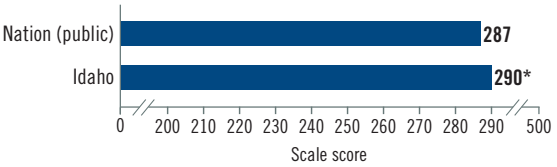


* Significantly different ($p < .05$) from the nation.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.

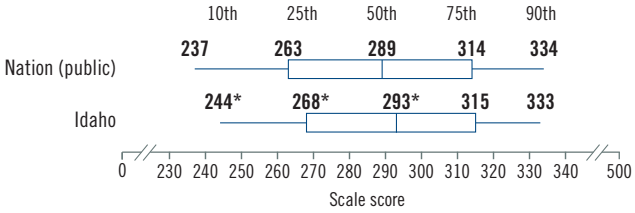
Reading

Average scale scores in NAEP reading for twelfth-grade public school students in the nation and Idaho: 2009



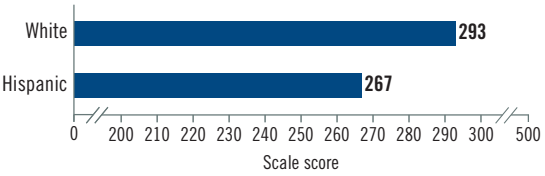
* Significantly different ($p < .05$) from the nation.

Percentile scores in NAEP reading for twelfth-grade public school students in the nation and Idaho: 2009



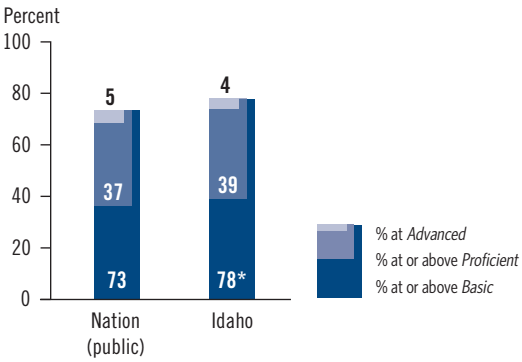
* Significantly different ($p < .05$) from the nation.

Average scale scores in NAEP reading for twelfth-grade public school students in Idaho, by race/ethnicity: 2009



NOTE: Results are not shown for all race/ethnicity categories because of insufficient sample sizes. White excludes Hispanic origin. Hispanic includes Latino.

Achievement-level results in NAEP reading for twelfth-grade public school students in the nation and Idaho: 2009



* Significantly different ($p < .05$) from the nation.

For Idaho twelfth-graders in 2009,

- the overall average reading score of 290 was higher than the score for the nation.

Percentile score results showed

- a higher score at the 25th percentile compared to the nation.
- no significant difference in the score at the 75th percentile compared to the nation.

Results for racial/ethnic groups showed

- a White – Hispanic score gap of 26 points.

Results for parental education level showed

- a 33-point score gap between students who reported neither of their parents finished high school and those who reported at least one parent graduated from college.
- no significant difference in the score gap compared to the 28-point score gap for the nation.

Results for how often students wrote long answers to questions that involved reading

- 32% wrote long answers at least once a week.
- 39% wrote long answers once or twice a month.
- 24% wrote long answers once or twice a year.
- 5% never wrote long answers.

What is the highest level of education students plan to complete?

- 17% plan to go to graduate school.
- 62% plan to graduate from college.
- 11% plan to complete some education after high school.
- 6% plan to graduate from high school.
- 1% do not plan to finish high school.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Reading Assessment.

Idaho

Mathematics

For Idaho twelfth-graders in 2009,

- the overall average mathematics score of 153 was not significantly different from the score for the nation.

Percentile score results showed

- a higher score at the 25th percentile compared to the nation.
- no significant difference in the score at the 75th percentile compared to the nation.

Results for racial/ethnic groups showed

- a White – Hispanic score gap of 25 points.[4]

[4] The score gap is based on the difference between the unrounded scores as opposed to the rounded scores shown in the figure.

Results for parental education level showed

- a 30-point score gap between students who reported neither of their parents finished high school and those who reported at least one parent graduated from college.
- no significant difference in the score gap compared to the 29-point score gap for the nation.

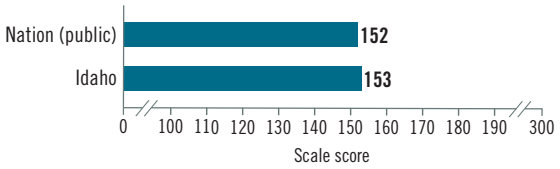
Results for the highest level mathematics course taken by students showed

- 13% took calculus.
- 20% took pre-calculus.
- 38% took algebra II/trigonometry.
- 17% took geometry.
- 11% took algebra I or lower.

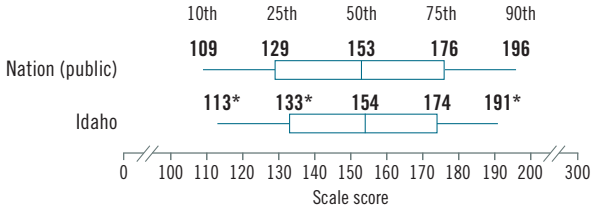
What do students plan to do in the year after leaving high school?

- 13% plan to work full time.
- 6% plan to attend vocational, technical, or business school.
- 16% plan to attend two-year college.
- 50% plan to attend four-year college, service academy, or university.
- 6% plan to serve in the military.

Average scale scores in NAEP mathematics for twelfth-grade public school students in the nation and Idaho: 2009

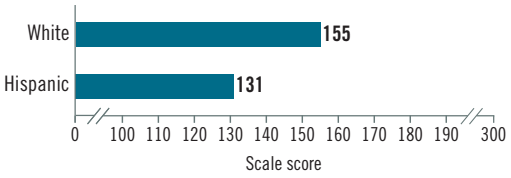


Percentile scores in NAEP mathematics for twelfth-grade public school students in the nation and Idaho: 2009



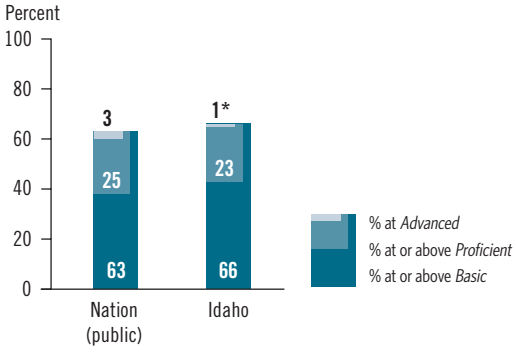
* Significantly different ($p < .05$) from the nation.

Average scale scores in NAEP mathematics for twelfth-grade public school students in Idaho, by race/ethnicity: 2009



NOTE: Results are not shown for all race/ethnicity categories because of insufficient sample sizes. White excludes Hispanic origin. Hispanic includes Latino.

Achievement-level results in NAEP mathematics for twelfth-grade public school students in the nation and Idaho: 2009

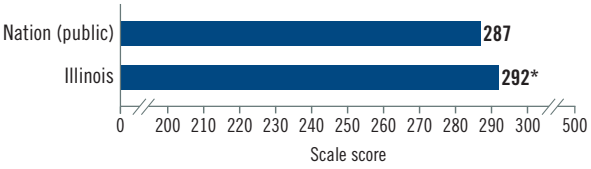


* Significantly different ($p < .05$) from the nation.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.

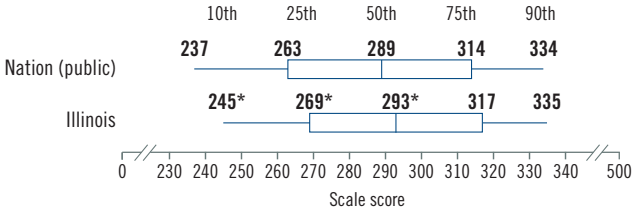
Reading

Average scale scores in NAEP reading for twelfth-grade public school students in the nation and Illinois: 2009



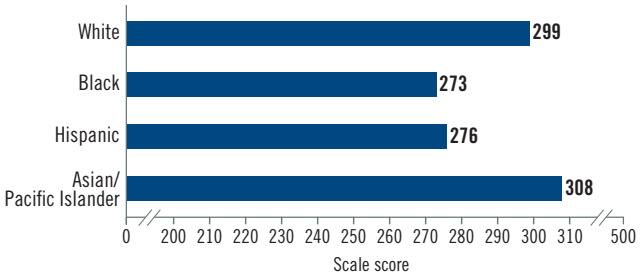
* Significantly different ($p < .05$) from the nation.

Percentile scores in NAEP reading for twelfth-grade public school students in the nation and Illinois: 2009



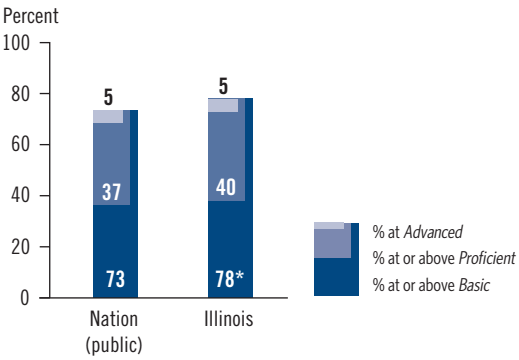
* Significantly different ($p < .05$) from the nation.

Average scale scores in NAEP reading for twelfth-grade public school students in Illinois, by race/ethnicity: 2009



NOTE: Results are not shown for all race/ethnicity categories because of insufficient sample sizes. Black includes African American, Hispanic includes Latino, and Pacific Islander includes Native Hawaiian. Race categories exclude Hispanic origin.

Achievement-level results in NAEP reading for twelfth-grade public school students in the nation and Illinois: 2009



* Significantly different ($p < .05$) from the nation.

For Illinois twelfth-graders in 2009,

- the overall average reading score of 292 was higher than the score for the nation.

Percentile score results showed

- a higher score at the 25th percentile compared to the nation.
- no significant difference in the score at the 75th percentile compared to the nation.

Results for racial/ethnic groups showed

- a White – Black score gap of 26 points.
- a White – Hispanic score gap of 22 points.[5]

[5] The score gap is based on the difference between the unrounded scores as opposed to the rounded scores shown in the figure.

Results for parental education level showed

- a 31-point score gap between students who reported neither of their parents finished high school and those who reported at least one parent graduated from college.
- no significant difference in the score gap compared to the 28-point score gap for the nation.

Results for how often students wrote long answers to questions that involved reading

- 33% wrote long answers at least once a week.
- 39% wrote long answers once or twice a month.
- 23% wrote long answers once or twice a year.
- 5% never wrote long answers.

What is the highest level of education students plan to complete?

- 27% plan to go to graduate school.
- 62% plan to graduate from college.
- 6% plan to complete some education after high school.
- 3% plan to graduate from high school.
- Less than 1% do not plan to finish high school.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Reading Assessment.

Illinois

Mathematics

For Illinois twelfth-graders in 2009,

- the overall average mathematics score of 154 was not significantly different from the score for the nation.

Percentile score results showed

- no significant difference in the score at the 25th percentile compared to the nation.
- no significant difference in the score at the 75th percentile compared to the nation.

Results for racial/ethnic groups showed

- a White – Black score gap of 32 points.
- a White – Hispanic score gap of 20 points.[6]

[6] The score gap is based on the difference between the unrounded scores as opposed to the rounded scores shown in the figure.

Results for parental education level showed

- a 30-point score gap between students who reported neither of their parents finished high school and those who reported at least one parent graduated from college.
- no significant difference in the score gap compared to the 29-point score gap for the nation.

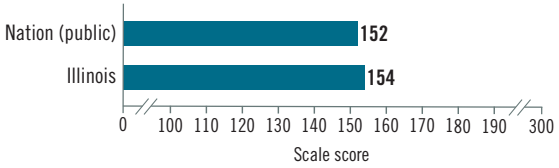
Results for the highest level mathematics course taken by students showed

- 14% took calculus.
- 25% took pre-calculus.
- 48% took algebra II/trigonometry.
- 10% took geometry.
- 3% took algebra I or lower.

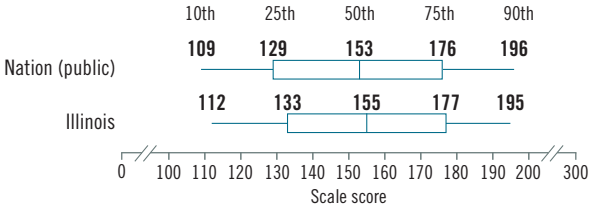
What do students plan to do in the year after leaving high school?

- 6% plan to work full time.
- 4% plan to attend vocational, technical, or business school.
- 20% plan to attend two-year college.
- 61% plan to attend four-year college, service academy, or university.
- 4% plan to serve in the military.

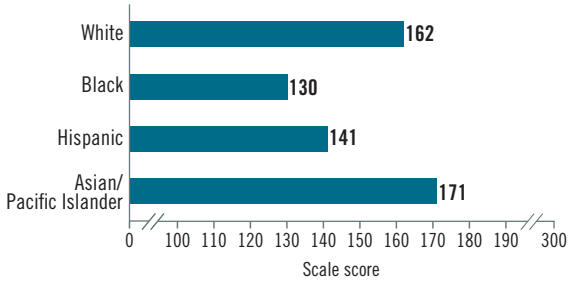
Average scale scores in NAEP mathematics for twelfth-grade public school students in the nation and Illinois: 2009



Percentile scale scores in NAEP mathematics for twelfth-grade public school students in the nation and Illinois: 2009

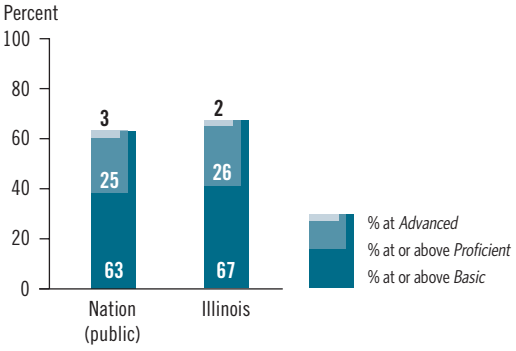


Average scale scores in NAEP mathematics for twelfth-grade public school students in Illinois, by race/ethnicity: 2009



NOTE: Results are not shown for all race/ethnicity categories because of insufficient sample sizes. Black includes African American, Hispanic includes Latino, and Pacific Islander includes Native Hawaiian. Race categories exclude Hispanic origin.

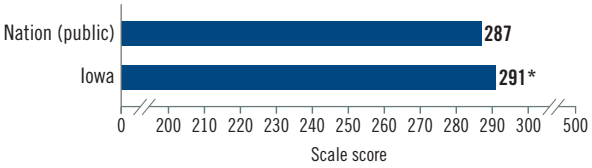
Achievement-level results in NAEP mathematics for twelfth-grade public school students in the nation and Illinois: 2009



SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.

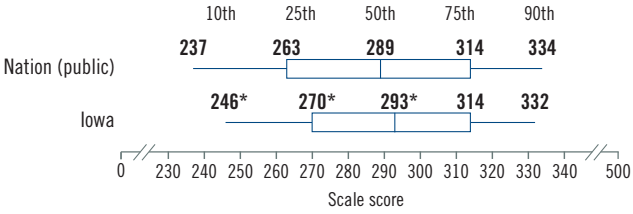
Reading

Average scale scores in NAEP reading for twelfth-grade public school students in the nation and Iowa: 2009



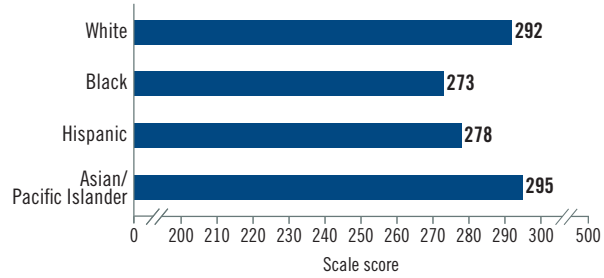
* Significantly different ($p < .05$) from the nation.

Percentile scores in NAEP reading for twelfth-grade public school students in the nation and Iowa: 2009



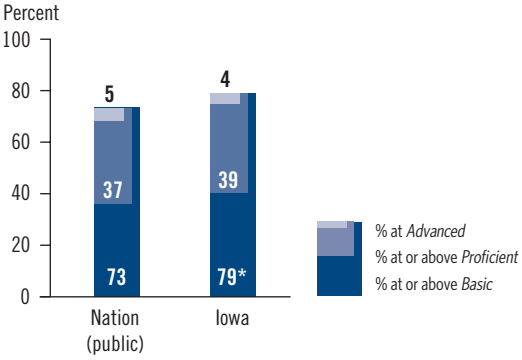
* Significantly different ($p < .05$) from the nation.

Average scale scores in NAEP reading for twelfth-grade public school students in Iowa, by race/ethnicity: 2009



NOTE: Results are not shown for all race/ethnicity categories because of insufficient sample sizes. Black includes African American, Hispanic includes Latino, and Pacific Islander includes Native Hawaiian. Race categories exclude Hispanic origin.

Achievement-level results in NAEP reading for twelfth-grade public school students in the nation and Iowa: 2009



* Significantly different ($p < .05$) from the nation.

For Iowa twelfth-graders in 2009,

- the overall average reading score of 291 was higher than the score for the nation.

Percentile score results showed

- a higher score at the 25th percentile compared to the nation.
- no significant difference in the score at the 75th percentile compared to the nation.

Results for racial/ethnic groups showed

- a White – Black score gap of 19 points.
- a White – Hispanic score gap of 13 points.[7]

[7] The score gap is based on the difference between the unrounded scores as opposed to the rounded scores shown in the figure.

Results for parental education level showed

- a 27-point score gap between students who reported neither of their parents finished high school and those who reported at least one parent graduated from college.
- no significant difference in the score gap compared to the 28-point score gap for the nation.

Results for how often students wrote long answers to questions that involved reading

- 25% wrote long answers at least once a week.
- 39% wrote long answers once or twice a month.
- 28% wrote long answers once or twice a year.
- 8% never wrote long answers.

What is the highest level of education students plan to complete?

- 18% plan to go to graduate school.
- 67% plan to graduate from college.
- 8% plan to complete some education after high school.
- 5% plan to graduate from high school.
- 1% do not plan to finish high school.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Reading Assessment.

Iowa

Mathematics

For Iowa twelfth-graders in 2009,

- the overall average mathematics score of 156 was higher than the score for the nation.

Percentile score results showed

- a higher score at the 25th percentile compared to the nation.
- no significant difference in the score at the 75th percentile compared to the nation.

Results for racial/ethnic groups showed

- a White – Black score gap of 20 points.
- a White – Hispanic score gap of 24 points.

Results for parental education level showed

- a 29-point score gap between students who reported neither of their parents finished high school and those who reported at least one parent graduated from college.
- no significant difference in the score gap compared to the 29-point score gap for the nation.

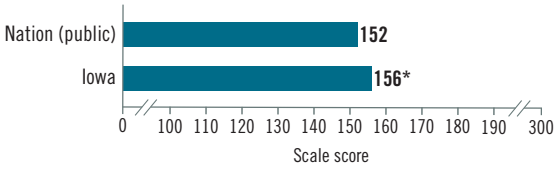
Results for the highest level mathematics course taken by students showed

- 14% took calculus.
- 21% took pre-calculus.
- 41% took algebra II/trigonometry.
- 11% took geometry.
- 13% took algebra I or lower.

What do students plan to do in the year after leaving high school?

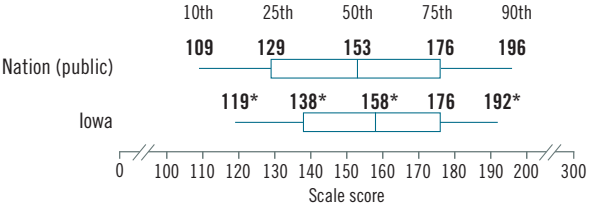
- 8% plan to work full time.
- 4% plan to attend vocational, technical, or business school.
- 28% plan to attend two-year college.
- 51% plan to attend four-year college, service academy, or university.
- 4% plan to serve in the military.

Average scale scores in NAEP mathematics for twelfth-grade public school students in the nation and Iowa: 2009



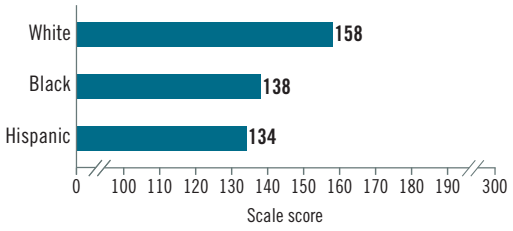
* Significantly different ($p < .05$) from the nation.

Percentile scores in NAEP mathematics for twelfth-grade public school students in the nation and Iowa: 2009



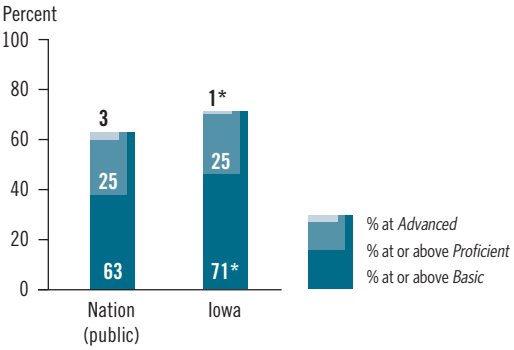
* Significantly different ($p < .05$) from the nation.

Average scale scores in NAEP mathematics for twelfth-grade public school students in Iowa, by race/ethnicity: 2009



NOTE: Results are not shown for all race/ethnicity categories because of insufficient sample sizes. Black includes African American, and Hispanic includes Latino. Race categories exclude Hispanic origin.

Achievement-level results in NAEP mathematics for twelfth-grade public school students in the nation and Iowa: 2009

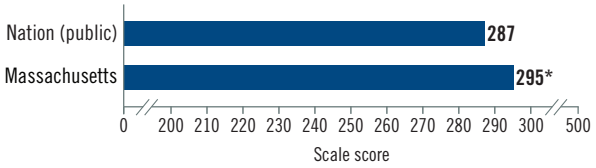


* Significantly different ($p < .05$) from the nation.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.

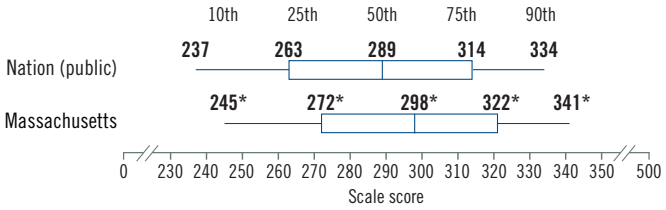
Reading

Average scale scores in NAEP reading for twelfth-grade public school students in the nation and Massachusetts: 2009



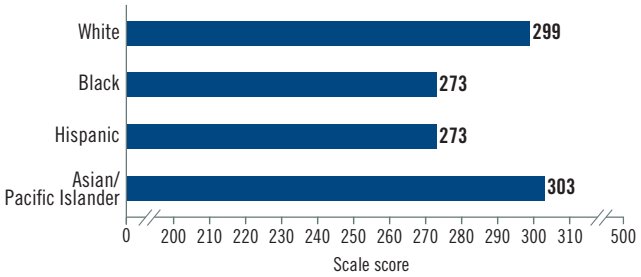
* Significantly different ($p < .05$) from the nation.

Percentile scores in NAEP reading for twelfth-grade public school students in the nation and Massachusetts: 2009



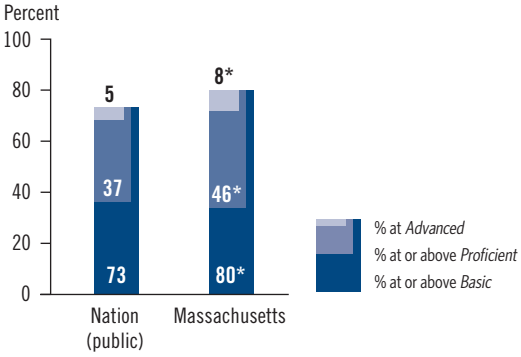
* Significantly different ($p < .05$) from the nation.

Average scale scores in NAEP reading for twelfth-grade public school students in Massachusetts, by race/ethnicity: 2009



NOTE: Results are not shown for all race/ethnicity categories because of insufficient sample sizes. Black includes African American, Hispanic includes Latino, and Pacific Islander includes Native Hawaiian. Race categories exclude Hispanic origin.

Achievement-level results in NAEP reading for twelfth-grade public school students in the nation and Massachusetts: 2009



* Significantly different ($p < .05$) from the nation.

For Massachusetts twelfth-graders in 2009,

- the overall average reading score of 295 was higher than the score for the nation.

Percentile score results showed

- a higher score at the 25th percentile compared to the nation.
- a higher score at the 75th percentile compared to the nation.

Results for racial/ethnic groups showed

- a White – Black score gap of 26 points.
- a White – Hispanic score gap of 26 points.

Results for parental education level showed

- a 37-point score gap between students who reported neither of their parents finished high school and those who reported at least one parent graduated from college.
- no significant difference in the score gap compared to the 28-point score gap for the nation.

Results for how often students wrote long answers to questions that involved reading

- 36% wrote long answers at least once a week.
- 43% wrote long answers once or twice a month.
- 17% wrote long answers once or twice a year.
- 4% never wrote long answers.

What is the highest level of education students plan to complete?

- 30% plan to go to graduate school.
- 57% plan to graduate from college.
- 6% plan to complete some education after high school.
- 4% plan to graduate from high school.
- 1% do not plan to finish high school.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Reading Assessment.

Massachusetts

Mathematics

For Massachusetts twelfth-graders in 2009,

- the overall average mathematics score of 163 was higher than the score for the nation.

Percentile score results showed

- a higher score at the 25th percentile compared to the nation.
- a higher score at the 75th percentile compared to the nation.

Results for racial/ethnic groups showed

- a White – Black score gap of 32 points.
- a White – Hispanic score gap of 30 points.

Results for parental education level showed

- a 34-point score gap between students who reported neither of their parents finished high school and those who reported at least one parent graduated from college.
- no significant difference in the score gap compared to the 29-point score gap for the nation.

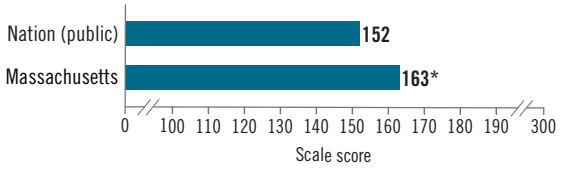
Results for the highest level mathematics course taken by students showed

- 27% took calculus.
- 27% took pre-calculus.
- 38% took algebra II/trigonometry.
- 7% took geometry.
- 1% took algebra I or lower.

What do students plan to do in the year after leaving high school?

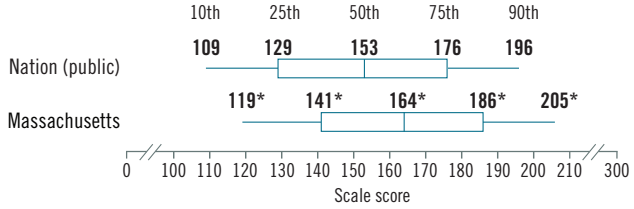
- 7% plan to work full time.
- 4% plan to attend vocational, technical, or business school.
- 11% plan to attend two-year college.
- 71% plan to attend four-year college, service academy, or university.
- 3% plan to serve in the military.

Average scale scores in NAEP mathematics for twelfth-grade public school students in the nation and Massachusetts: 2009



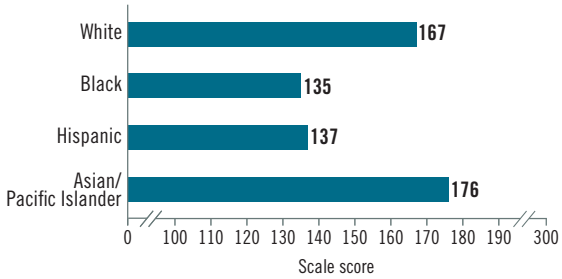
* Significantly different ($p < .05$) from the nation.

Percentile scores in NAEP mathematics for twelfth-grade public school students in the nation and Massachusetts: 2009



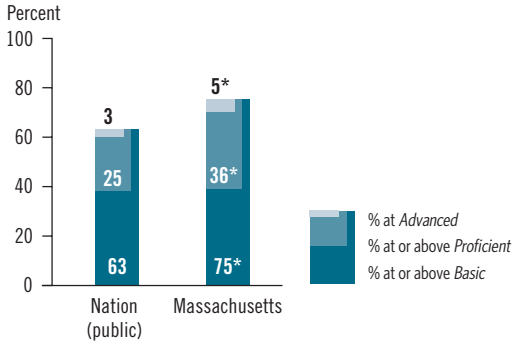
* Significantly different ($p < .05$) from the nation.

Average scale scores in NAEP mathematics for twelfth-grade public school students in Massachusetts, by race/ethnicity: 2009



NOTE: Results are not shown for all race/ethnicity categories because of insufficient sample sizes. Black includes African American, Hispanic includes Latino, and Pacific Islander includes Native Hawaiian. Race categories exclude Hispanic origin.

Achievement-level results in NAEP mathematics for twelfth-grade public school students in the nation and Massachusetts: 2009

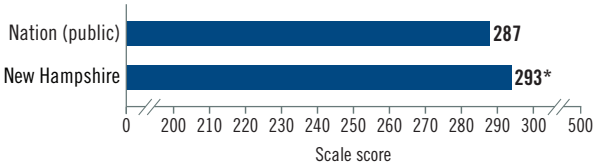


* Significantly different ($p < .05$) from the nation.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.

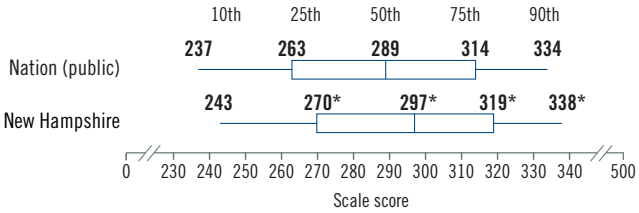
Reading

Average scale scores in NAEP reading for twelfth-grade public school students in the nation and New Hampshire: 2009



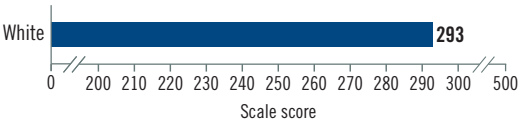
* Significantly different ($p < .05$) from the nation.

Percentile scores in NAEP reading for twelfth-grade public school students in the nation and New Hampshire: 2009



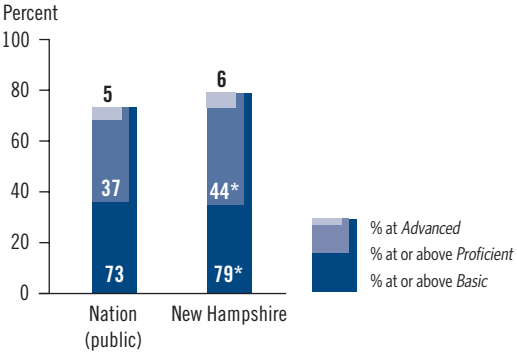
* Significantly different ($p < .05$) from the nation.

Average scale scores in NAEP reading for twelfth-grade public school students in New Hampshire, by race/ethnicity: 2009



NOTE: Results are not shown for all race/ethnicity categories because of insufficient sample sizes. White excludes Hispanic origin.

Achievement-level results in NAEP reading for twelfth-grade public school students in the nation and New Hampshire: 2009



* Significantly different ($p < .05$) from the nation.

For New Hampshire twelfth-graders in 2009,

- the overall average reading score of 293 was higher than the score for the nation.

Percentile score results showed

- a higher score at the 25th percentile compared to the nation.
- a higher score at the 75th percentile compared to the nation.

Results for racial/ethnic groups showed

- an average score of 293 for White students.

Results for parental education level showed

- a 36-point score gap between students who reported neither of their parents finished high school and those who reported at least one parent graduated from college.
- no significant difference in the score gap compared to the 28-point score gap for the nation.

Results for how often students wrote long answers to questions that involved reading

- 34% wrote long answers at least once a week.
- 38% wrote long answers once or twice a month.
- 22% wrote long answers once or twice a year.
- 6% never wrote long answers.

What is the highest level of education students plan to complete?

- 24% plan to go to graduate school.
- 59% plan to graduate from college.
- 9% plan to complete some education after high school.
- 4% plan to graduate from high school.
- 1% do not plan to finish high school.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Reading Assessment.

New Hampshire

Mathematics

For New Hampshire twelfth-graders in 2009,

- the overall average mathematics score of 160 was higher than the score for the nation.

Percentile score results showed

- a higher score at the 25th percentile compared to the nation.
- a higher score at the 75th percentile compared to the nation.

Results for racial/ethnic groups showed

- an average score of 161 for White students.

Results for parental education level showed

- a 35-point score gap between students who reported neither of their parents finished high school and those who reported at least one parent graduated from college.
- no significant difference in the score gap compared to the 29-point score gap for the nation.

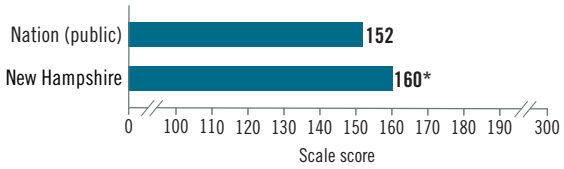
Results for the highest level mathematics course taken by students showed

- 20% took calculus.
- 23% took pre-calculus.
- 42% took algebra II/trigonometry.
- 9% took geometry.
- 7% took algebra I or lower.

What do students plan to do in the year after leaving high school?

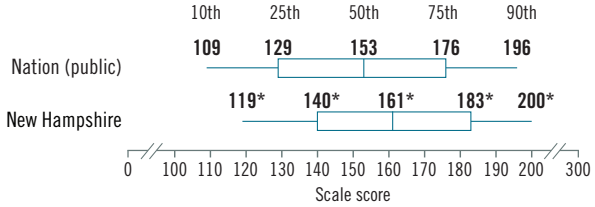
- 9% plan to work full time.
- 7% plan to attend vocational, technical, or business school.
- 10% plan to attend two-year college.
- 66% plan to attend four-year college, service academy, or university.
- 4% plan to serve in the military.

Average scale scores in NAEP mathematics for twelfth-grade public school students in the nation and New Hampshire: 2009



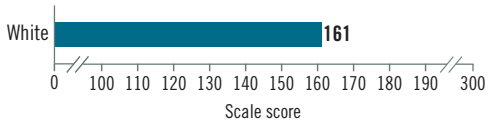
* Significantly different ($p < .05$) from the nation.

Percentile scores in NAEP mathematics for twelfth-grade public school students in the nation and New Hampshire: 2009



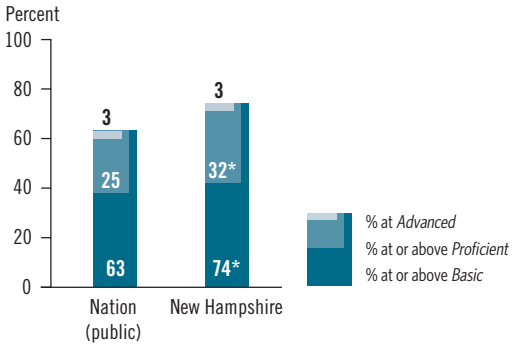
* Significantly different ($p < .05$) from the nation.

Average scale scores in NAEP mathematics for twelfth-grade public school students in New Hampshire, by race/ethnicity: 2009



NOTE: Results are not shown for all race/ethnicity categories because of insufficient sample sizes. White excludes Hispanic origin.

Achievement-level results in NAEP mathematics for twelfth-grade public school students in the nation and New Hampshire: 2009

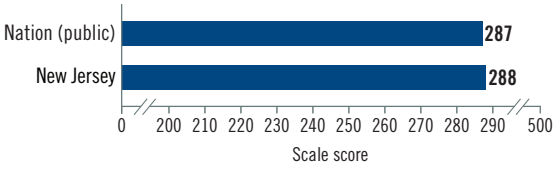


* Significantly different ($p < .05$) from the nation.

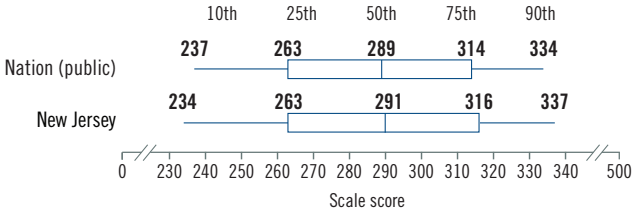
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.

Reading

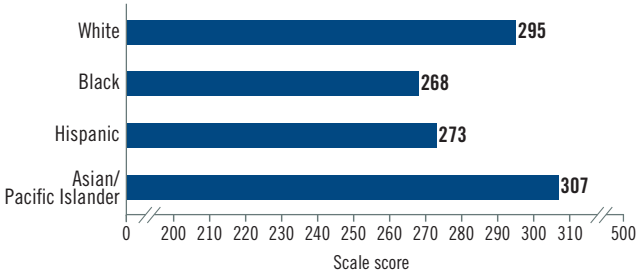
Average scale scores in NAEP reading for twelfth-grade public school students in the nation and New Jersey: 2009



Percentile scores in NAEP reading for twelfth-grade public school students in the nation and New Jersey: 2009

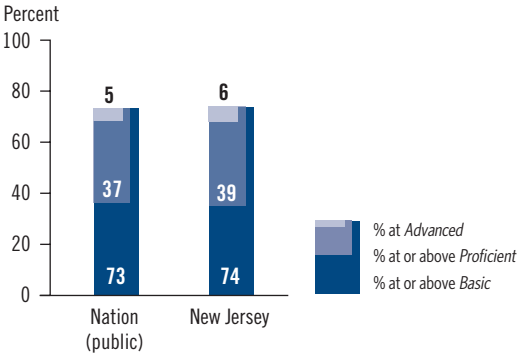


Average scale scores in NAEP reading for twelfth-grade public school students in New Jersey, by race/ethnicity: 2009



NOTE: Results are not shown for all race/ethnicity categories because of insufficient sample sizes. Black includes African American, Hispanic includes Latino, and Pacific Islander includes Native Hawaiian. Race categories exclude Hispanic origin.

Achievement-level results in NAEP reading for twelfth-grade public school students in the nation and New Jersey: 2009



For New Jersey twelfth-graders in 2009,

- the overall average reading score of 288 was not significantly different from the nation.

Percentile score results showed

- no significant difference in the score at the 25th percentile compared to the nation.
- no significant difference in the score at the 75th percentile compared to the nation.

Results for racial/ethnic groups showed

- a White – Black score gap of 28 points.[8]
- a White – Hispanic score gap of 22 points.

[8] The score gap is based on the difference between the unrounded scores as opposed to the rounded scores shown in the figure.

Results for parental education level showed

- a 33-point score gap between students who reported neither of their parents finished high school and those who reported at least one parent graduated from college.
- no significant difference in the score gap compared to the 28-point score gap for the nation.

Results for how often students wrote long answers to questions that involved reading

- 40% wrote long answers at least once a week.
- 39% wrote long answers once or twice a month.
- 17% wrote long answers once or twice a year.
- 4% never wrote long answers.

What is the highest level of education students plan to complete?

- 31% plan to go to graduate school.
- 57% plan to graduate from college.
- 5% plan to complete some education after high school.
- 4% plan to graduate from high school.
- 1% do not plan to finish high school.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Reading Assessment.

New Jersey

Mathematics

For New Jersey twelfth-graders in 2009,

- the overall average mathematics score of 156 was higher than the score for the nation.

Percentile score results showed

- a higher score at the 25th percentile compared to the nation.
- a higher score at the 75th percentile compared to the nation.

Results for racial/ethnic groups showed

- a White – Black score gap of 31 points.
- a White – Hispanic score gap of 26 points.

Results for parental education level showed

- a 32-point score gap between students who reported neither of their parents finished high school and those who reported at least one parent graduated from college.
- no significant difference in the score gap compared to the 29-point score gap for the nation.

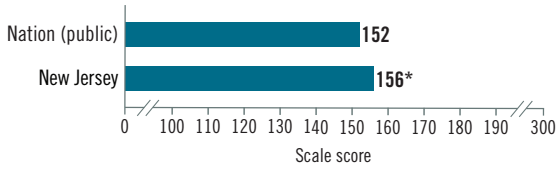
Results for the highest level mathematics course taken by students showed

- 23% took calculus.
- 24% took pre-calculus.
- 42% took algebra II/trigonometry.
- 7% took geometry.
- 4% took algebra I or lower.

What do students plan to do in the year after leaving high school?

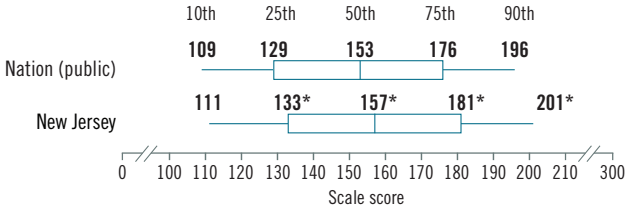
- 5% plan to work full time.
- 3% plan to attend vocational, technical, or business school.
- 16% plan to attend two-year college.
- 70% plan to attend four-year college, service academy, or university.
- 3% plan to serve in the military.

Average scale scores in NAEP mathematics for twelfth-grade public school students in the nation and New Jersey: 2009



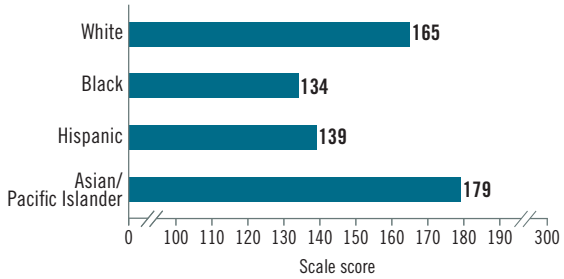
* Significantly different ($p < .05$) from the nation.

Percentile scores in NAEP mathematics for twelfth-grade public school students in the nation and New Jersey: 2009



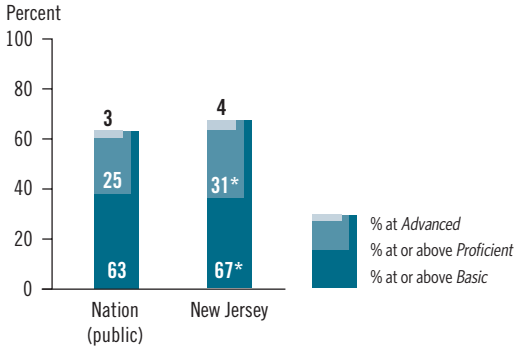
* Significantly different ($p < .05$) from the nation.

Average scale scores in NAEP mathematics for twelfth-grade public school students in New Jersey, by race/ethnicity: 2009



NOTE: Results are not shown for all race/ethnicity categories because of insufficient sample sizes. Black includes African American, Hispanic includes Latino, and Pacific Islander includes Native Hawaiian. Race categories exclude Hispanic origin.

Achievement-level results in NAEP mathematics for twelfth-grade public school students in the nation and New Jersey: 2009

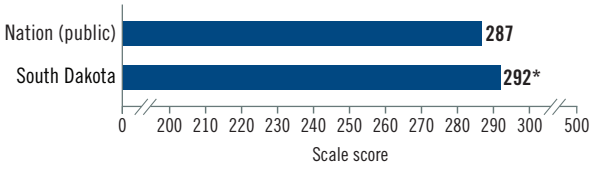


* Significantly different ($p < .05$) from the nation.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.

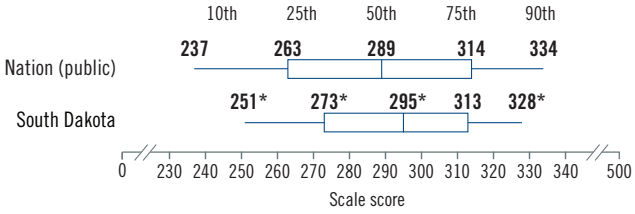
Reading

Average scale scores in NAEP reading for twelfth-grade public school students in the nation and South Dakota: 2009



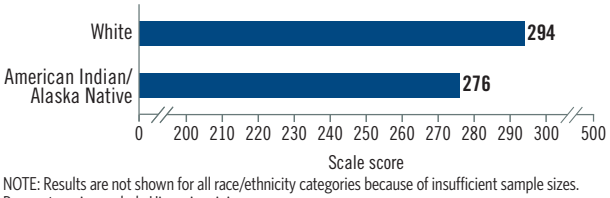
* Significantly different ($p < .05$) from the nation.

Percentile scores in NAEP reading for twelfth-grade public school students in the nation and South Dakota: 2009



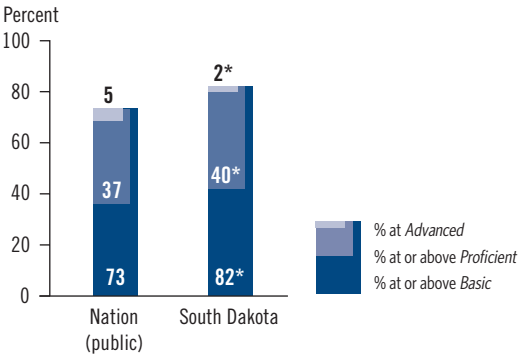
* Significantly different ($p < .05$) from the nation.

Average scale scores in NAEP reading for twelfth-grade public school students in South Dakota, by race/ethnicity: 2009



NOTE: Results are not shown for all race/ethnicity categories because of insufficient sample sizes. Race categories exclude Hispanic origin.

Achievement-level results in NAEP reading for twelfth-grade public school students in the nation and South Dakota: 2009



* Significantly different ($p < .05$) from the nation.

For South Dakota twelfth-graders in 2009,

- the overall average reading score of 292 was higher than the score for the nation.

Percentile score results showed

- a higher score at the 25th percentile compared to the nation.
- no significant difference in the score at the 75th percentile compared to the nation.

Results for racial/ethnic groups showed

- a White – American Indian/Alaska Native score gap of 18 points.

Results for parental education level showed

- a 33-point score gap between students who reported neither of their parents finished high school and those who reported at least one parent graduated from college.
- no significant difference in the score gap compared to the 28-point score gap for the nation.

Results for how often students wrote long answers to questions that involved reading

- 27% wrote long answers at least once a week.
- 41% wrote long answers once or twice a month.
- 25% wrote long answers once or twice a year.
- 6% never wrote long answers.

What is the highest level of education students plan to complete?

- 20% plan to go to graduate school.
- 63% plan to graduate from college.
- 10% plan to complete some education after high school.
- 4% plan to graduate from high school.
- 1% do not plan to finish high school.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Reading Assessment.

South Dakota

Mathematics

For South Dakota twelfth-graders in 2009,

- the overall average mathematics score of 160 was higher than the score for the nation.

Percentile score results showed

- a higher score at the 25th percentile compared to the nation.
- a higher score at the 75th percentile compared to the nation.

Results for racial/ethnic groups showed

- a White – American Indian/Alaska Native score gap of 22 points.

Results for parental education level showed

- a 31-point score gap between students who reported neither of their parents finished high school and those who reported at least one parent graduated from college.
- no significant difference in the score gap compared to the 29-point score gap for the nation.

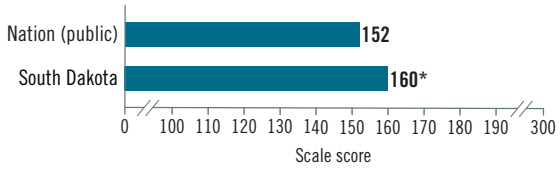
Results for the highest level mathematics course taken by students showed

- 17% took calculus.
- 28% took pre-calculus.
- 41% took algebra II/trigonometry.
- 8% took geometry.
- 5% took algebra I or lower.

What do students plan to do in the year after leaving high school?

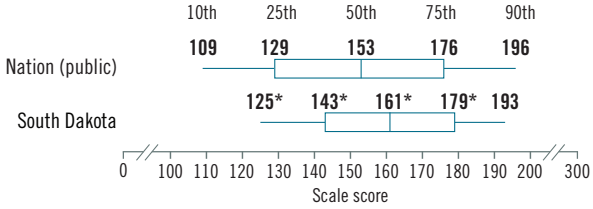
- 7% plan to work full time.
- 15% plan to attend vocational, technical, or business school.
- 7% plan to attend two-year college.
- 62% plan to attend four-year college, service academy, or university.
- 5% plan to serve in the military.

Average scale scores in NAEP mathematics for twelfth-grade public school students in the nation and South Dakota: 2009



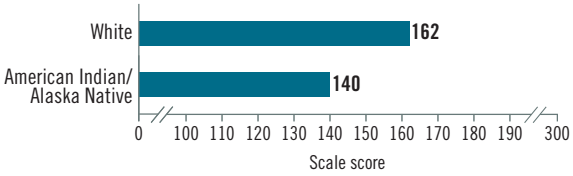
* Significantly different ($p < .05$) from the nation.

Percentile scores in NAEP mathematics for twelfth-grade public school students in the nation and South Dakota: 2009



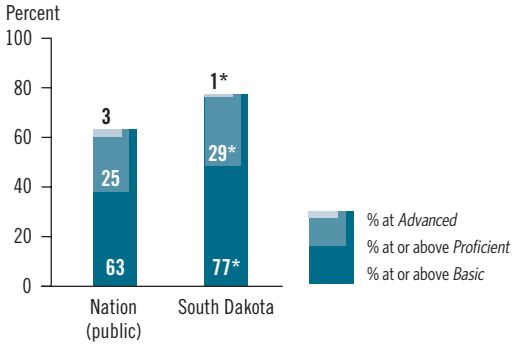
* Significantly different ($p < .05$) from the nation.

Average scale scores in NAEP mathematics for twelfth-grade public school students in South Dakota, by race/ethnicity: 2009



NOTE: Results are not shown for all race/ethnicity categories because of insufficient sample sizes. Race categories exclude Hispanic origin.

Achievement-level results in NAEP mathematics for twelfth-grade public school students in the nation and South Dakota: 2009

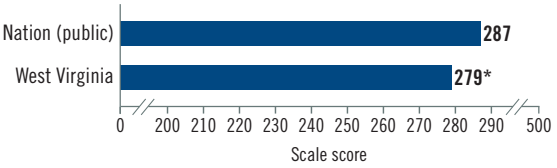


* Significantly different ($p < .05$) from the nation.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.

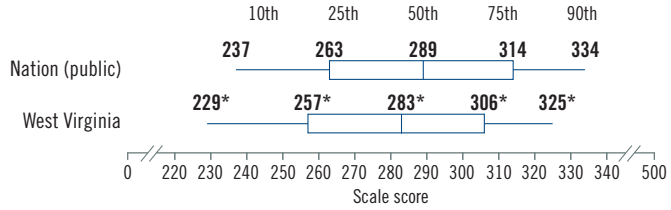
Reading

Average scale scores in NAEP reading for twelfth-grade public school students in the nation and West Virginia: 2009



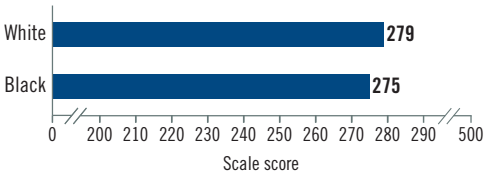
* Significantly different ($p < .05$) from the nation.

Percentile scores in NAEP reading for twelfth-grade public school students in the nation and West Virginia: 2009



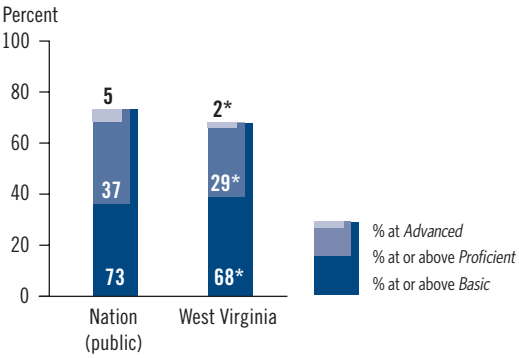
* Significantly different ($p < .05$) from the nation.

Average scale scores in NAEP reading for twelfth-grade public school students in West Virginia, by race/ethnicity: 2009



NOTE: Results are not shown for all race/ethnicity categories because of insufficient sample sizes. Black includes African American. Race categories exclude Hispanic origin.

Achievement-level results in NAEP reading for twelfth-grade public school students in the nation and West Virginia: 2009



* Significantly different ($p < .05$) from the nation.

For West Virginia twelfth-graders in 2009,

- the overall average reading score of 279 was lower than the score for the nation.

Percentile score results showed

- a lower score at the 25th percentile compared to the nation.
- a lower score at the 75th percentile compared to the nation.

Results for racial/ethnic groups showed

- no significant difference in the average scores for White and Black students.

Results for parental education level showed

- a 35-point score gap between students who reported neither of their parents finished high school and those who reported at least one parent graduated from college.
- a larger score gap compared to the 28-point score gap for the nation.

Results for how often students wrote long answers to questions that involved reading

- 34% wrote long answers at least once a week.
- 34% wrote long answers once or twice a month.
- 25% wrote long answers once or twice a year.
- 8% never wrote long answers.

What is the highest level of education students plan to complete?

- 19% plan to go to graduate school.
- 57% plan to graduate from college.
- 10% plan to complete some education after high school.
- 9% plan to graduate from high school.
- 1% do not plan to finish high school.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Reading Assessment.

West Virginia

Mathematics

For West Virginia twelfth-graders in 2009,

- the overall average mathematics score of 141 was lower than the score for the nation.

Percentile score results showed

- a lower score at the 25th percentile compared to the nation.
- a lower score at the 75th percentile compared to the nation.

Results for racial/ethnic groups showed

- a White – Black score gap of 21 points.

Results for parental education level showed

- a 30-point score gap between students who reported neither of their parents finished high school and those who reported at least one parent graduated from college.
- no significant difference in the score gap compared to the 29-point score gap for the nation.

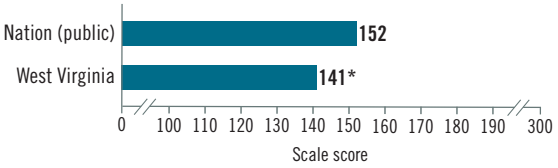
Results for the highest level mathematics course taken by students showed

- 11% took calculus.
- 16% took pre-calculus.
- 57% took algebra II/trigonometry.
- 14% took geometry.
- 2% took algebra I or lower.

What do students plan to do in the year after leaving high school?

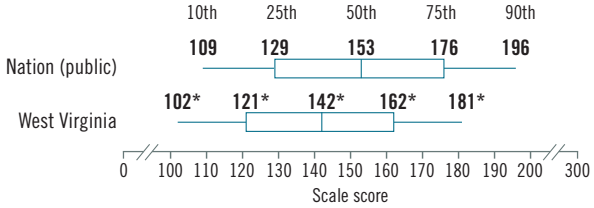
- 13% plan to work full time.
- 9% plan to attend vocational, technical, or business school.
- 12% plan to attend two-year college.
- 56% plan to attend four-year college, service academy, or university.
- 4% plan to serve in the military.

Average scale scores in NAEP mathematics for twelfth-grade public school students in the nation and West Virginia: 2009



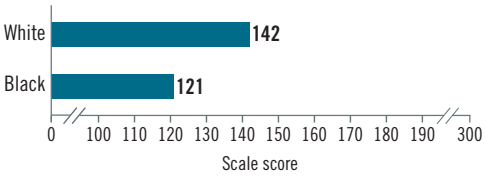
* Significantly different ($p < .05$) from the nation.

Percentile scores in NAEP mathematics for twelfth-grade public school students in the nation and West Virginia: 2009



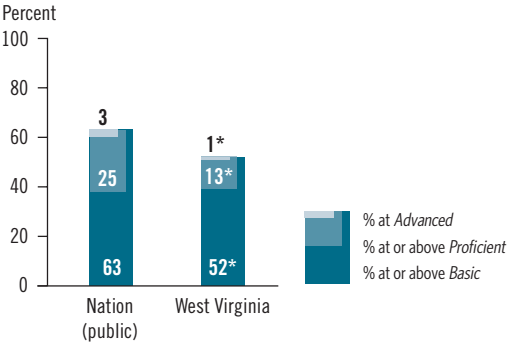
* Significantly different ($p < .05$) from the nation.

Average scale scores in NAEP mathematics for twelfth-grade public school students in West Virginia, by race/ethnicity: 2009



NOTE: Results are not shown for all race/ethnicity categories because of insufficient sample sizes. Black includes African American. Race categories exclude Hispanic origin.

Achievement-level results in NAEP mathematics for twelfth-grade public school students in the nation and West Virginia: 2009



* Significantly different ($p < .05$) from the nation.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.

Technical Notes

Sampling and Weighting

The schools and students participating in NAEP assessments are selected to be representative of all students nationally and of public school students in participating states. The national sample of schools and students is drawn from across the country, and results from the assessed students are combined to provide accurate estimates of the overall performance of twelfth-graders in the nation.

While national results reflect the performance of students in both public schools and private schools, state-level results reflect the performance of public school students only and are being reported for the first time in 2009 for grade 12. More information on sampling can be found at http://nces.ed.gov/nationsreportcard/about/nathow.asp.

Because each school that participated in the assessment, and each student assessed, represents a portion of the population of interest, the results are weighted to account for the disproportionate representation of certain groups in the selected sample. This includes the oversampling of schools with high concentrations of students from certain racial/ethnic groups and the lower sampling rates of students who attend very small private schools.

School and Student Participation

National participation

Twelfth-graders from 1,670 schools (1,500 public schools and 170 private schools) participated in the 2009 assessments in reading and mathematics (table **TN-1**). To ensure unbiased samples, NAEP statistical standards require that participation rates for original school samples be 70 percent or higher to report national results separately for public and private schools.

The weighted national school participation rate in 2009 was 83 percent (86 percent for public schools and 52 percent for private schools) for both twelfth-grade reading and mathematics assessments. The school participation rate for private schools fell below the standard for reporting. The weighted student participation rate based on public and private schools combined was 81 percent for reading and 80 percent for mathematics.

Because the weighted student participation rate in public schools was below 85 percent (80 percent for reading and 79 percent for mathematics), a student nonresponse bias analysis was conducted. That analysis showed that the responding student sample differed from the original student sample with respect to race, relative age, and student disability status. After adjusting the sampling weights to account for student nonresponse, the remaining bias was small, with the nonresponse adjusted estimates for the three identified variables differing from the unadjusted estimates by plus or minus 0.1 percentage points.

Table **TN-1.** Public school and student participation rates in twelfth-grade NAEP reading and mathematics, by state/jurisdiction: 2009

State/jurisdiction	School participation		Student participation	
	Student-weighted percent	Number of schools participating	Student-weighted percent	Number of students assessed
Reading				
Nation	**83**	**1,670**	**81**	**51,700**
Nation (public)	**86**	**1,500**	**80**	**48,900**
Arkansas	100	100	87	2,700
Connecticut	100	100	75	2,800
Florida	100	80	80	3,400
Idaho	100	100	89	3,100
Illinois	85	80	79	2,800
Iowa	100	120	84	2,700
Massachusetts	100	90	82	3,100
New Hampshire	92	60	69	2,200
New Jersey	99	90	78	3,200
South Dakota	100	130	84	2,700
West Virginia	100	90	82	3,000
Mathematics				
Nation	**83**	**1,670**	**80**	**48,900**
Nation (public)	**86**	**1,500**	**79**	**46,400**
Arkansas	100	100	87	2,700
Connecticut	100	90	76	2,800
Florida	100	80	80	3,200
Idaho	100	100	89	3,000
Illinois	85	80	79	2,700
Iowa	100	120	83	2,600
Massachusetts	100	90	81	2,900
New Hampshire	92	60	68	2,100
New Jersey	99	90	78	3,100
South Dakota	100	130	83	2,600
West Virginia	100	90	82	3,000

NOTE: Eleven states participated in the reading and mathematics assessments and met the reporting criteria. The number of schools is rounded to the nearest ten. The number of students is rounded to the nearest hundred.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Reading and Mathematics Assessments.

State participation

Standards established by the National Assessment Governing Board require that school participation rates for the original state samples need to be at least 85 percent for results to be reported. Because the weighted school participation rate in Illinois was 84.5 percent, a school nonresponse bias analysis was conducted for the grade 12 public school sample in that state. That analysis showed that the responding school sample in Illinois differed from the original sample with respect to school size and estimated grade enrollment. The potential nonresponse bias was effectively reduced by including substitute schools and adjusting the sampling weights to account for school nonresponse. The school participation rates for the remaining 10 states all met the required standard with weighted participation rates ranging from 92 to 100 percent.

The results from the student nonresponse bias analysis for participating states will be available at http://nationsreportcard.gov/reading_2009/participation.asp.

Interpreting Statistical Significance

Comparisons over time or between groups are based on statistical tests that consider both the size of the differences and the standard errors of the two statistics being compared. Standard errors are margins of error, and estimates based on smaller groups are likely to have larger margins of error. The size of the standard errors may also be influenced by other factors such as how representative the assessed students are of the entire population.

When an estimate has a large standard error, a numerical difference that seems large may not be statistically significant. Differences of the same magnitude may or may not be statistically significant depending upon the size of the standard errors of the estimates. For example, a 3-point change in the average score for White students may be statistically significant, while a 4-point change for American Indian/Alaska Native students may not be. Standard errors for the estimates presented in this report are available at http://nces.ed.gov/nationsreportcard/naepdata/.

When estimates of percentages are close to 0 or 100, reliable standard errors cannot be estimated. As a result, significance tests are not conducted when comparisons involve an extreme percentage. More information about how extreme percentages are defined in NAEP is available at http://nces.ed.gov/nationsreportcard/tdw/analysis/infer_guidelines_extreme.asp.

To ensure that significant differences in NAEP data reflect actual differences and not mere chance, error rates need to be controlled when making multiple simultaneous comparisons. The more comparisons that are made (e.g., comparing the performance of White, Black, Hispanic, Asian/Pacific Islander, and American Indian/Alaska Native students), the higher the probability of finding significant differences by chance. In NAEP, the Benjamini-Hochberg False Discovery Rate (FDR) procedure is used to control the expected proportion of falsely rejected hypotheses relative to the number of comparisons that are conducted. (The term "falsely rejected hypotheses" refers to mistakenly finding a statistically significant difference when, in truth, the difference is not statistically different.) A detailed explanation of the FDR procedure can be found at http://nces.ed.gov/nationsreportcard/tdw/analysis/2000_2001/infer_multiplecompare_fdr.asp.

NAEP employs a number of rules to determine the number of comparisons conducted, which in most cases is simply the number of possible statistical tests. However, there are two exceptions where the FDR is not applied: when comparing multiple years and when comparing multiple states to the nation, neither the number of years nor the number of states counts toward the number of comparisons.

School Location

NAEP results are reported for four mutually exclusive categories of school location: city, suburb, town, and rural. The categories are based on standard definitions established by the Federal Office of Management and Budget using population and geographic information from the U.S. Census Bureau. Schools are assigned to these categories in the NCES Common Core of Data locale codes based on their physical addresses.

The classification system was revised for 2007; therefore, only 2009 results are included in this report. The new locale codes are based on an address's proximity to an urbanized area (a densely settled core with densely settled surrounding areas). This is a change from the previous system based on metropolitan statistical areas. To distinguish the two, the new system is referred to as "urban-centric locale codes." More details on the classification system can be found at http://nces.ed.gov/ccd/rural_locales.asp.

Appendix Tables

Tables A-1 through **A-10** provide additional results for NAEP reading, and **tables A-11** through **A-20** provide additional results for NAEP mathematics.

Table **A-1.** Percentage of twelfth-grade public and nonpublic school students with disabilities (SD) and/or English language learners (ELL) identified, excluded, and assessed in NAEP reading, as a percentage of all students, by SD/ELL category: Various years, 1992–2009

	Accommodations not permitted			Accommodations permitted			
SD/ELL category	1992	1994	1998	1998	2002	2005	2009
SD and/or ELL							
Identified	7	9	7	7	12	14	13
Excluded	5	5	3	2	4	4	4
Assessed	2	5	4	5	8	10	9
Without accommodations	2	5	4	4	6	5	4
With accommodations	†	†	†	1	2	4	6
SD							
Identified	5	7	6	6	9	10	10
Excluded	4	4	3	2	3	3	3
Assessed	1	3	3	4	6	7	7
Without accommodations	1	3	3	3	4	3	2
With accommodations	†	†	†	1	2	4	5
ELL							
Identified	2	2	2	2	3	4	3
Excluded	1	1	#	#	1	1	1
Assessed	1	1	2	2	3	3	2
Without accommodations	1	1	2	2	2	3	2
With accommodations	†	†	†	#	#	1	1

† Not applicable. Accommodations were not permitted in this assessment year.
# Rounds to zero.
NOTE: Students identified as both SD and ELL were counted only once under the combined SD and/or ELL category, but were counted separately under the SD and ELL categories. Detail may not sum to totals because of rounding.
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), various years, 1992–2009 Reading Assessments.

Table **A-2.** Percentage of twelfth-grade public and nonpublic school students with disabilities (SD) and/or English language learners (ELL) identified, excluded, and assessed in NAEP reading, as a percentage of all students, by selected racial/ethnic groups and SD/ELL category: 2009

	Race/ethnicity		
SD/ELL category	White	Black	Hispanic
SD and/or ELL			
Identified	11	14	20
Excluded	3	6	5
Assessed	8	8	16
Without accommodations	2	2	9
With accommodations	6	6	6
SD			
Identified	11	14	10
Excluded	3	6	3
Assessed	8	8	6
Without accommodations	2	2	2
With accommodations	6	6	4
ELL			
Identified	#	1	13
Excluded	#	#	3
Assessed	#	1	10
Without accommodations	#	#	8
With accommodations	#	#	3

Rounds to zero.

NOTE: Black includes African American, and Hispanic includes Latino. Race categories exclude Hispanic origin. Students identified as both SD and ELL were counted only once under the combined SD and/or ELL category, but were counted separately under the SD and ELL categories. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Reading Assessment.

Table **A-3.** Percentage of twelfth-grade public and nonpublic school students identified as students with disabilities (SD) and/or English language learners (ELL) excluded and assessed in NAEP reading, as a percentage of identified SD and/or ELL students, by SD/ELL category: 2009

	Percentage of identified SD and/or ELL students			
SD/ELL category	Excluded	Assessed	Assessed without accommodations	Assessed with accommodations
SD and/or ELL	28	72	28	45
SD	31	69	18	50
ELL	21	79	57	22

NOTE: Students identified as both SD and ELL were counted only once under the combined SD and/or ELL category, but were counted separately under the SD and ELL categories. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Reading Assessment.

Table **A-4.** Percentage of twelfth-grade public school students with disabilities (SD) and/or English language learners (ELL) identified, excluded, and assessed in NAEP reading, as a percentage of all students, by SD/ELL category and state/jurisdiction: 2009

SD/ELL category and state/jurisdiction	Percentage of all students				
	Identified	Excluded	Assessed	Assessed without accommodations	Assessed with accommodations
SD and/or ELL					
Nation (public)	**14**	**4**	**10**	**4**	**6**
Arkansas	15	3	13	3	9
Connecticut	13	3	10	2	8
Florida	16	6	10	1	10
Idaho	10	2	7	4	4
Illinois	14	5	9	2	7
Iowa	12	3	9	2	7
Massachusetts	16	5	12	3	9
New Hampshire	17	3	14	7	7
New Jersey	16	4	12	2	10
South Dakota	10	3	7	3	4
West Virginia	15	3	12	6	7
SD					
Nation (public)	**11**	**4**	**7**	**2**	**5**
Arkansas	13	2	10	3	8
Connecticut	11	2	9	1	7
Florida	13	4	8	#	8
Idaho	8	2	6	3	3
Illinois	12	5	8	1	6
Iowa	11	3	8	1	7
Massachusetts	15	4	10	2	8
New Hampshire	16	3	13	6	7
New Jersey	14	3	11	1	10
South Dakota	9	3	6	3	3
West Virginia	15	3	12	5	7
ELL					
Nation (public)	**3**	**1**	**3**	**2**	**1**
Arkansas	3	#	3	1	2
Connecticut	2	1	1	1	1
Florida	4	2	2	#	2
Idaho	2	#	2	1	1
Illinois	2	#	2	1	1
Iowa	1	#	1	#	#
Massachusetts	2	1	1	1	#
New Hampshire	1	#	1	#	#
New Jersey	2	1	1	#	1
South Dakota	1	#	1	#	#
West Virginia	1	#	1	1	#

Rounds to zero.

NOTE: Eleven states participated in the assessment and met the reporting criteria. Students identified as both SD and ELL were counted only once under the combined SD and/or ELL category, but were counted separately under the SD and ELL categories. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Reading Assessment.

Table **A-5.** Percentage of twelfth-grade public school students identified as students with disabilities (SD) and/or English language learners (ELL) excluded and assessed in NAEP reading, as a percentage of identified SD and/or ELL students, by SD/ELL category and state/jurisdiction: 2009

SD/ELL category and state/jurisdiction	Percentage of identified SD and/or ELL students			
	Excluded	Assessed	Assessed without accommodations	Assessed with accommodations
SD and/or ELL				
Nation (public)	**29**	**71**	**28**	**43**
Arkansas	17	83	22	61
Connecticut	24	76	14	62
Florida	37	63	4	59
Idaho	24	76	36	39
Illinois	34	66	12	54
Iowa	28	72	14	58
Massachusetts	29	71	19	52
New Hampshire	19	81	39	42
New Jersey	24	76	11	65
South Dakota	33	67	30	37
West Virginia	19	81	36	44
SD				
Nation (public)	**33**	**67**	**19**	**49**
Arkansas	19	81	20	61
Connecticut	22	78	11	67
Florida	35	65	3	62
Idaho	27	73	31	42
Illinois	38	62	9	53
Iowa	28	72	13	59
Massachusetts	28	72	15	57
New Hampshire	20	80	38	42
New Jersey	22	78	10	68
South Dakota	35	65	29	36
West Virginia	20	80	34	46
ELL				
Nation (public)	**21**	**79**	**57**	**22**
Arkansas	4	96	30	66
Connecticut	47	53	26	27
Florida	48	52	6	45
Idaho	14	86	53	33
Illinois	9	91	30	61
Iowa	35	65	25	39
Massachusetts	49	51	38	13
New Hampshire	28	72	45	27
New Jersey	51	49	14	36
South Dakota	10	90	46	44
West Virginia	#	100	94	6

Rounds to zero.

NOTE: Eleven states participated in the assessment and met the reporting criteria. Students identified as both SD and ELL were counted only once under the combined SD and/or ELL category, but were counted separately under the SD and ELL categories. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Reading Assessment.

Table **A-6.** Average scale scores and achievement-level results in NAEP reading for twelfth-grade public school students, by selected racial/ethnic groups and state/jurisdiction: 2009

Race/ethnicity and state/jurisdiction	Average scale score	Percentage of students			
		Below *Basic*	At or above *Basic*	At or above *Proficient*	At *Advanced*
White					
Nation (public)	**295**	**20**	**80**	**45**	**7**
Arkansas	287*	24*	76*	36*	4*
Connecticut	301*	16*	84*	52*	9*
Florida	289*	24*	76*	39*	5
Idaho	293	19	81	42	4*
Illinois	299*	15*	85*	48	6
Iowa	292*	20	80	40*	4*
Massachusetts	299*	16*	84*	50*	9
New Hampshire	293	21	79	44	6
New Jersey	295	20	80	47	8
South Dakota	294	16*	84*	42	2*
West Virginia	279*	32*	68*	29*	2*
Black					
Nation (public)	**268**	**44**	**56**	**16**	**1**
Arkansas	259*	54*	46*	9*	#
Connecticut	265	46	54	15	1
Florida	269	41	59	17	1
Idaho	‡	‡	‡	‡	‡
Illinois	273	40	60	20	1
Iowa	273	36	64	21	1
Massachusetts	273	39	61	21	1
New Hampshire	‡	‡	‡	‡	‡
New Jersey	268	44	56	16	1
South Dakota	‡	‡	‡	‡	‡
West Virginia	275	35	65	21	3
Hispanic					
Nation (public)	**273**	**39**	**61**	**21**	**2**
Arkansas	269	44	56	19	1
Connecticut	273	37	63	24	1
Florida	277	35	65	26	3
Idaho	267*	44	56	15*	#
Illinois	276	35	65	24	1
Iowa	278	31	69	27	2
Massachusetts	273	40	60	21	2
New Hampshire	‡	‡	‡	‡	‡
New Jersey	273	37	63	20	1
South Dakota	‡	‡	‡	‡	‡
West Virginia	‡	‡	‡	‡	‡
Asian/Pacific Islander					
Nation (public)	**298**	**19**	**81**	**49**	**10**
Arkansas	‡	‡	‡	‡	‡
Connecticut	296	22	78	49	12
Florida	296	21	79	48	6
Idaho	‡	‡	‡	‡	‡
Illinois	308	11	89	61	13
Iowa	295	20	80	41	8
Massachusetts	303	16	84	55	11
New Hampshire	‡	‡	‡	‡	‡
New Jersey	307*	15	85	60*	15
South Dakota	‡	‡	‡	‡	‡
West Virginia	‡	‡	‡	‡	‡

Rounds to zero.

‡ Reporting standards not met. Sample size insufficient to permit a reliable estimate.

* Significantly different ($p < .05$) from the nation.

NOTE: Eleven states participated in the assessment and met the reporting criteria. Black includes African American, Hispanic includes Latino, and Pacific Islander includes Native Hawaiian. Race categories exclude Hispanic origin. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Reading Assessment.

Table **A-7.** Average scale scores and achievement-level results in NAEP reading for twelfth-grade public school students, by gender and state/jurisdiction: 2009

Gender and state/jurisdiction	Average scale score	Percentage of students			
		Below *Basic*	At or above *Basic*	At or above *Proficient*	At *Advanced*
Male					
Nation (public)	**281**	**33**	**67**	**31**	**4**
Arkansas	271*	40*	60*	22*	2*
Connecticut	285*	29*	71*	37*	5*
Florida	276*	37*	63*	26*	3
Idaho	285*	27*	73*	33	3
Illinois	286*	27*	73*	34	3
Iowa	284*	27*	73*	31	3
Massachusetts	290*	25*	75*	41*	6
New Hampshire	284	29	71	35	4
New Jersey	282	32	68	34	5
South Dakota	286*	24*	76*	32	1*
West Virginia	271*	41*	59*	22*	1*
Female					
Nation (public)	**293**	**21**	**79**	**42**	**6**
Arkansas	289*	23	77	36*	4*
Connecticut	300*	16*	84*	50*	10*
Florida	289*	23	77	38	5
Idaho	296*	17*	83*	45	5
Illinois	297	16*	84*	46	7
Iowa	298*	14*	86*	48*	5
Massachusetts	301*	15*	85*	51*	9*
New Hampshire	302*	13*	87*	54*	8
New Jersey	294	21	79	44	8
South Dakota	299*	12*	88*	49*	3*
West Virginia	288*	24	76	36*	3*

* Significantly different ($p < .05$) from the nation.

NOTE: Eleven states participated in the assessment and met the reporting criteria. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Reading Assessment.

Table **A-8.** Average scale scores and achievement-level results in NAEP reading for twelfth-grade public school students, by student-reported highest level of parental education and state/jurisdiction: 2009

Highest level of parental education and state/jurisdiction	Average scale score	Percentage of students			
		Below *Basic*	At or above *Basic*	At or above *Proficient*	At *Advanced*
Did not finish high school					
Nation (public)	**269**	**43**	**57**	**17**	**1**
Arkansas	265	47	53	14	#
Connecticut	269	41	59	22	1
Florida	266	46	54	15	1
Idaho	266	45	55	14	#
Illinois	271	39	61	17	#
Iowa	269	46	54	18	1
Massachusetts	267	42	58	18	2
New Hampshire	265	47	53	22	1
New Jersey	266	45	55	15	#
South Dakota	264	52	48	9	#
West Virginia	256*	57*	43*	11	#
Graduated from high school					
Nation (public)	**276**	**36**	**64**	**25**	**2**
Arkansas	271*	39	61	20*	2
Connecticut	278	34	66	26	2
Florida	276	35	65	24	2
Idaho	283*	28*	72*	28	2
Illinois	279	30	70	25	2
Iowa	279	31	69	28	1
Massachusetts	282*	29*	71*	28	2
New Hampshire	281	30	70	30	2
New Jersey	275	35	65	24	1
South Dakota	284*	25*	75*	28	#
West Virginia	270*	41*	59*	19*	1
Some education after high school					
Nation (public)	**287**	**25**	**75**	**34**	**3**
Arkansas	284	28	72	32	4
Connecticut	290	22	78	38	4
Florida	285	27	73	32	3
Idaho	290*	20*	80*	37	3
Illinois	289	23	77	36	3
Iowa	294*	16*	84*	42*	4
Massachusetts	292*	20	80	40	4
New Hampshire	290	22	78	39	4
New Jersey	283	29	71	32	4
South Dakota	293*	16*	84*	40	1*
West Virginia	283*	29	71	29*	2
Graduated from college					
Nation (public)	**297**	**19**	**81**	**48**	**8**
Arkansas	288*	24*	76*	38*	3*
Connecticut	304*	14*	86*	55*	11*
Florida	291*	23*	77*	41*	6*
Idaho	299	15*	85*	50	6
Illinois	302*	13*	87*	53*	8
Iowa	296	17	83	45	6*
Massachusetts	305*	14*	86*	57*	11*
New Hampshire	302*	14*	86*	53*	8
New Jersey	299	18	82	50	10
South Dakota	297	14*	86*	47	3*
West Virginia	290*	22	78	41*	4*

Rounds to zero.

* Significantly different ($p < .05$) from the nation.

NOTE: Eleven states participated in the assessment and met the reporting criteria. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Reading Assessment.

Table **A-9.** Average scale scores and achievement-level results in NAEP reading for twelfth-grade public school students, by status as students with disabilities (SD) and state/jurisdiction: 2009

SD status and state/jurisdiction	Average scale score	Percentage of students			
		Below *Basic*	At or above *Basic*	At or above *Proficient*	At *Advanced*
SD					
Nation (public)	**250**	**64**	**36**	**10**	**#**
Arkansas	231*	82*	18*	3*	#
Connecticut	255	56	44	17*	2
Florida	250	63	37	9	1
Idaho	248	65	35	7	#
Illinois	255	60	40	11	1
Iowa	243	72	28	6	#
Massachusetts	263*	50*	50*	16	1
New Hampshire	263*	49*	51*	15	1
New Jersey	255	58	42	12	1
South Dakota	249	71	29	3*	#
West Virginia	235*	76*	24*	5*	#
Not SD					
Nation (public)	**290**	**24**	**76**	**39**	**5**
Arkansas	286*	26	74	33*	3*
Connecticut	296*	19*	81*	46*	8*
Florida	286*	27	73	34*	4
Idaho	293*	19*	81*	41	4
Illinois	295*	18*	82*	43	5
Iowa	295*	16*	84*	42*	5
Massachusetts	299*	16*	84*	50*	8*
New Hampshire	298*	17*	83*	49*	7
New Jersey	292	22	78	42	7
South Dakota	295*	15*	85*	43*	2*
West Virginia	286*	26	74	33*	3*

Rounds to zero.

* Significantly different ($p < .05$) from the nation.

NOTE: Eleven states participated in the assessment and met the reporting criteria. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Reading Assessment.

Table **A-10.** Average scale scores and achievement-level results in NAEP reading for twelfth-grade public school students, by status as English language learners (ELL) and state/jurisdiction: 2009

ELL status and state/jurisdiction	Average scale score	Percentage of students			
		Below *Basic*	At or above *Basic*	At or above *Proficient*	At *Advanced*
ELL					
Nation (public)	**240**	**78**	**22**	**2**	**#**
Arkansas	251*	64	36	7	#
Connecticut	‡	‡	‡	‡	‡
Florida	245	70	30	3	#
Idaho	‡	‡	‡	‡	‡
Illinois	‡	‡	‡	‡	‡
Iowa	‡	‡	‡	‡	‡
Massachusetts	‡	‡	‡	‡	‡
New Hampshire	‡	‡	‡	‡	‡
New Jersey	‡	‡	‡	‡	‡
South Dakota	‡	‡	‡	‡	‡
West Virginia	‡	‡	‡	‡	‡
Not ELL					
Nation (public)	**288**	**25**	**75**	**37**	**5**
Arkansas	281*	31*	69*	30*	3*
Connecticut	293*	22*	78*	44*	7*
Florida	284*	29*	71*	33*	4*
Idaho	291	21*	79*	40	4
Illinois	292*	21*	79*	41	5
Iowa	291*	21*	79*	40	4
Massachusetts	296*	19*	81*	46*	8*
New Hampshire	293*	21*	79*	44*	6
New Jersey	289	25	75	39	6
South Dakota	292*	18*	82*	41	2*
West Virginia	279*	32*	68*	29*	2*

Rounds to zero.

‡ Reporting standards not met. Sample size insufficient to permit a reliable estimate.

* Significantly different ($p < .05$) from the nation.

NOTE: Eleven states participated in the assessment and met the reporting criteria. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Reading Assessment.

Table **A-11.** Percentage of twelfth-grade public and nonpublic school students with disabilities (SD) and/or English language learners (ELL) identified, excluded, and assessed in NAEP mathematics, as a percentage of all students, by SD/ELL category: 2005 and 2009

SD/ELL category	2005	2009
SD and/or ELL		
Identified	13	13
Excluded	3	3
Assessed	10	10
Without accommodations	5	3
With accommodations	5	6
SD		
Identified	10	11
Excluded	3	3
Assessed	7	7
Without accommodations	3	2
With accommodations	4	5
ELL		
Identified	4	3
Excluded	1	#
Assessed	4	3
Without accommodations	3	2
With accommodations	1	1

Rounds to zero.

NOTE: Students identified as both SD and ELL were counted only once under the combined SD and/or ELL category, but were counted separately under the SD and ELL categories. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2005 and 2009 Mathematics Assessments.

Table A-12. Percentage of twelfth-grade public and nonpublic school students with disabilities (SD) and/or English language learners (ELL) identified, excluded, and assessed in NAEP mathematics, as a percentage of all students, by selected racial/ethnic groups and SD/ELL category: 2009

	Race/ethnicity		
SD/ELL category	White	Black	Hispanic
SD and/or ELL			
Identified	11	14	20
Excluded	3	4	4
Assessed	8	9	16
Without accommodations	2	2	8
With accommodations	6	7	8
SD			
Identified	11	13	10
Excluded	3	4	4
Assessed	8	9	7
Without accommodations	2	2	2
With accommodations	6	7	5
ELL			
Identified	#	1	12
Excluded	#	#	2
Assessed	#	1	11
Without accommodations	#	#	7
With accommodations	#	1	4

Rounds to zero.

NOTE: Black includes African American, and Hispanic includes Latino. Race categories exclude Hispanic origin. Students identified as both SD and ELL were counted only once under the combined SD and/or ELL category, but were counted separately under the SD and ELL categories. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.

Table A-13. Percentage of twelfth-grade public and nonpublic school students identified as students with disabilities (SD) and/or English language learners (ELL) excluded and assessed in NAEP mathematics, as a percentage of identified SD and/or ELL students, by SD/ELL category: 2009

	Percentage of identified SD and/or ELL students			
SD/ELL category	Excluded	Assessed	Assessed without accommodations	Assessed with accommodations
SD and/or ELL	25	75	27	48
SD	30	70	18	52
ELL	14	86	53	33

NOTE: Students identified as both SD and ELL were counted only once under the combined SD and/or ELL category, but were counted separately under the SD and ELL categories. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.

Table **A-14.** Percentage of twelfth-grade public school students with disabilities (SD) and/or English language learners (ELL) identified, excluded, and assessed in NAEP mathematics, as a percentage of all students, by SD/ELL category and state/jurisdiction: 2009

SD/ELL category and state/jurisdiction	Percentage of all students				
	Identified	Excluded	Assessed	Assessed without accommodations	Assessed with accommodations
SD and/or ELL					
Nation (public)	**14**	**4**	**10**	**4**	**6**
Arkansas	15	3	12	3	9
Connecticut	13	3	10	2	8
Florida	16	5	11	1	11
Idaho	10	2	8	3	5
Illinois	14	4	10	2	8
Iowa	12	3	9	3	7
Massachusetts	16	5	12	3	9
New Hampshire	17	3	14	6	8
New Jersey	16	3	13	2	11
South Dakota	10	2	7	3	5
West Virginia	15	2	13	4	9
SD					
Nation (public)	**11**	**3**	**8**	**2**	**6**
Arkansas	13	3	10	2	7
Connecticut	11	3	8	1	7
Florida	13	5	8	#	7
Idaho	8	2	6	2	4
Illinois	12	4	8	2	7
Iowa	11	3	8	2	6
Massachusetts	15	5	10	2	8
New Hampshire	16	3	13	6	7
New Jersey	14	3	11	2	10
South Dakota	9	2	7	2	5
West Virginia	15	2	13	4	9
ELL					
Nation (public)	**3**	**#**	**3**	**2**	**1**
Arkansas	3	#	3	1	2
Connecticut	2	#	2	#	1
Florida	4	#	4	#	4
Idaho	2	#	2	1	1
Illinois	2	#	1	#	1
Iowa	1	#	1	1	#
Massachusetts	2	#	2	1	1
New Hampshire	1	#	1	#	#
New Jersey	2	#	1	#	1
South Dakota	1	#	1	#	#
West Virginia	1	#	1	1	#

Rounds to zero.

NOTE: Eleven states participated in the assessment and met the reporting criteria. Students identified as both SD and ELL were counted only once under the combined SD and/or ELL category, but were counted separately under the SD and ELL categories. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.

Table **A-15.** Percentage of twelfth-grade public school students identified as students with disabilities (SD) and/or English language learners (ELL) excluded and assessed in NAEP mathematics, as a percentage of identified SD and/or ELL students, by SD/ELL category and state/jurisdiction: 2009

SD/ELL category and state/jurisdiction	Percentage of identified SD and/or ELL students			
	Excluded	Assessed	Assessed without accommodations	Assessed with accommodations
SD and/or ELL				
Nation (public)	**26**	**74**	**27**	**47**
Arkansas	20	80	23	57
Connecticut	24	76	15	62
Florida	31	69	5	64
Idaho	20	80	30	50
Illinois	29	71	15	56
Iowa	24	76	21	55
Massachusetts	29	71	17	54
New Hampshire	18	82	37	45
New Jersey	21	79	12	67
South Dakota	23	77	27	50
West Virginia	14	86	28	57
SD				
Nation (public)	**31**	**69**	**18**	**51**
Arkansas	24	76	19	57
Connecticut	25	75	13	62
Florida	40	60	3	57
Idaho	23	77	25	52
Illinois	31	69	14	55
Iowa	26	74	16	57
Massachusetts	32	68	15	53
New Hampshire	18	82	37	45
New Jersey	21	79	11	68
South Dakota	25	75	24	51
West Virginia	15	85	26	59
ELL				
Nation (public)	**14**	**86**	**52**	**34**
Arkansas	1	99	37	62
Connecticut	17	83	21	62
Florida	6	94	9	86
Idaho	2	98	56	42
Illinois	17	83	21	62
Iowa	7	93	62	31
Massachusetts	14	86	28	58
New Hampshire	8	92	59	32
New Jersey	24	76	15	61
South Dakota	4	96	53	43
West Virginia	#	100	90	10

Rounds to zero.

NOTE: Eleven states participated in the assessment and met the reporting criteria. Students identified as both SD and ELL were counted only once under the combined SD and/or ELL category, but were counted separately under the SD and ELL categories. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.

Table **A-16.** Average scale scores and achievement-level results in NAEP mathematics for twelfth-grade public school students, by selected racial/ethnic groups and state/jurisdiction: 2009

Race/ethnicity and state/jurisdiction	Average scale score	Percentage of students			
		Below *Basic*	At or above *Basic*	At or above *Proficient*	At *Advanced*
White					
Nation (public)	**160**	**26**	**74**	**31**	**3**
Arkansas	154*	30*	70*	20*	1*
Connecticut	165*	21*	79*	37*	3
Florida	156*	31	69	24*	1*
Idaho	155*	30	70	24*	1*
Illinois	162	24	76	32	2
Iowa	158*	27	73	26*	1*
Massachusetts	167*	20*	80*	40*	5*
New Hampshire	161	26	74	32	3
New Jersey	165*	23	77	39*	4
South Dakota	162*	20*	80*	31	1*
West Virginia	142*	47*	53*	13*	#*
Black					
Nation (public)	**131**	**64**	**36**	**6**	**#**
Arkansas	121*	77*	23*	2*	#
Connecticut	131	61	39	5	#
Florida	133	62	38	7	#
Idaho	‡	‡	‡	‡	‡
Illinois	130	62	38	6	1
Iowa	138	57	43	10	#
Massachusetts	135	59	41	9	#
New Hampshire	‡	‡	‡	‡	‡
New Jersey	134	58	42	9	#
South Dakota	‡	‡	‡	‡	‡
West Virginia	121*	74	26	1	#
Hispanic					
Nation (public)	**137**	**55**	**45**	**10**	**#**
Arkansas	136	56	44	7	#
Connecticut	132	58	42	6*	#
Florida	142*	49*	51*	13	1
Idaho	131*	65*	35*	9	#
Illinois	141	52	48	13	#
Iowa	134	58	42	6	1
Massachusetts	137	54	46	12	1
New Hampshire	‡	‡	‡	‡	‡
New Jersey	139	51	49	10	1
South Dakota	‡	‡	‡	‡	‡
West Virginia	‡	‡	‡	‡	‡
Asian/Pacific Islander					
Nation (public)	**175**	**17**	**83**	**52**	**11**
Arkansas	‡	‡	‡	‡	‡
Connecticut	173	18	82	50	10
Florida	165	23	77	39	5
Idaho	‡	‡	‡	‡	‡
Illinois	171	18	82	46	4
Iowa	‡	‡	‡	‡	‡
Massachusetts	176	15	85	50	12
New Hampshire	‡	‡	‡	‡	‡
New Jersey	179	13	87	55	13
South Dakota	‡	‡	‡	‡	‡
West Virginia	‡	‡	‡	‡	‡

Rounds to zero.

‡ Reporting standards not met. Sample size insufficient to permit a reliable estimate.

* Significantly different ($p < .05$) from the nation.

NOTE: Eleven states participated in the assessment and met the reporting criteria. Black includes African American, Hispanic includes Latino, and Pacific Islander includes Native Hawaiian. Race categories exclude Hispanic origin. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.

Table **A-17.** Average scale scores and achievement-level results in NAEP mathematics for twelfth-grade public school students, by gender and state/jurisdiction: 2009

Gender and state/jurisdiction	Average scale score	Percentage of students			
		Below *Basic*	At or above *Basic*	At or above *Proficient*	At *Advanced*
Male					
Nation (public)	**154**	**36**	**64**	**27**	**3**
Arkansas	146*	42*	58*	18*	1*
Connecticut	157	31	69	30	4
Florida	150*	39	61	21*	1*
Idaho	153	33	67	25	2*
Illinois	156	33	67	29	2
Iowa	156	30*	70*	28	1*
Massachusetts	162*	27*	73*	36*	6
New Hampshire	161*	27*	73*	35*	4
New Jersey	157	33	67	32	5
South Dakota	160*	24*	76*	30	1*
West Virginia	142*	47*	53*	15*	1*
Female					
Nation (public)	**151**	**38**	**62**	**23**	**2**
Arkansas	146*	40	60	13*	#*
Connecticut	156*	31*	69*	28*	2
Florida	146*	43*	57*	16*	1*
Idaho	152	34*	66*	21	#*
Illinois	153	34	66	24	1
Iowa	156*	27*	73*	22	1
Massachusetts	163*	23*	77*	35*	3*
New Hampshire	160*	25*	75*	30*	2
New Jersey	156*	32*	68*	29*	3
South Dakota	159*	22*	78*	27*	#*
West Virginia	141*	48*	52*	10*	#

Rounds to zero.

* Significantly different ($p < .05$) from the nation.

NOTE: Eleven states participated in the assessment and met the reporting criteria. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.

Table **A-18.** Average scale scores and achievement-level results in NAEP mathematics for twelfth-grade public school students, by student-reported highest level of parental education and state/jurisdiction: 2009

Highest level of parental education and state/jurisdiction	Average scale score	Percentage of students			
		Below *Basic*	At or above *Basic*	At or above *Proficient*	At *Advanced*
Did not finish high school					
Nation (public)	**134**	**60**	**40**	**8**	**#**
Arkansas	137	55	45	7	#
Connecticut	133	59	41	6	#
Florida	136	57	43	7	#
Idaho	130	62	38	7	#
Illinois	134	60	40	7	#
Iowa	135	56	44	5	#
Massachusetts	138	54	46	14	1
New Hampshire	134	55	45	10	#
New Jersey	135	57	43	7	1
South Dakota	134	61	39	6	#
West Virginia	123*	71*	29*	5	#
Graduated from high school					
Nation (public)	**141**	**49**	**51**	**14**	**1**
Arkansas	138*	53	47	10*	#
Connecticut	141	47	53	13	#
Florida	141	51	49	13	#
Idaho	142	46	54	12	#
Illinois	144	45	55	15	1
Iowa	144	44	56	13	#
Massachusetts	149*	37*	63*	18	1
New Hampshire	150*	35*	65*	19*	#
New Jersey	142	47	53	15	1
South Dakota	153*	30*	70*	19*	#
West Virginia	134*	59*	41*	6*	#
Some education after high school					
Nation (public)	**150**	**37**	**63**	**19**	**1**
Arkansas	147	39	61	14*	#
Connecticut	148	39	61	17	#
Florida	148	38	62	14*	#
Idaho	154*	29*	71*	22	#
Illinois	152	34	66	21	1
Iowa	154*	31*	69*	20	#
Massachusetts	157*	28*	72*	24*	2
New Hampshire	152	33	67	20	1
New Jersey	150	38	62	20	1
South Dakota	157*	25*	75*	24*	#
West Virginia	141*	50*	50*	10*	#
Graduated from college					
Nation (public)	**163**	**25**	**75**	**37**	**5**
Arkansas	154*	31*	69*	23*	1*
Connecticut	169*	18*	82*	43*	5
Florida	156*	32*	68*	28*	2*
Idaho	160	25	75	30*	2*
Illinois	164	22	78	37	3
Iowa	163	20*	80*	33	2*
Massachusetts	173*	16*	84*	48*	7
New Hampshire	169*	18*	82*	43*	5
New Jersey	167*	22	78	43*	6
South Dakota	165	18*	82*	35	1*
West Virginia	153*	32*	68*	22*	1*

Rounds to zero.

* Significantly different ($p < .05$) from the nation.

NOTE: Eleven states participated in the assessment and met the reporting criteria. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.

Table **A-19.** Average scale scores and achievement-level results in NAEP mathematics for twelfth-grade public school students, by status as students with disabilities (SD) and state/jurisdiction: 2009

SD status and state/jurisdiction	Average scale score	Percentage of students			
		Below *Basic*	At or above *Basic*	At or above *Proficient*	At *Advanced*
SD					
Nation (public)	**118**	**76**	**24**	**6**	**#**
Arkansas	109*	88*	12*	1*	#
Connecticut	127*	67*	33*	13*	1
Florida	122	77	23	3	#
Idaho	118	79	21	3	#
Illinois	111*	82	18	2*	#
Iowa	118	81	19	2*	#
Massachusetts	136*	55*	45*	12	1
New Hampshire	135*	60*	40*	13*	#
New Jersey	121	73	27	8	1
South Dakota	121	79	21	2	#
West Virginia	104*	89*	11*	2*	#
Not SD					
Nation (public)	**155**	**34**	**66**	**26**	**3**
Arkansas	150*	36	64	17*	1*
Connecticut	159*	28*	72*	31*	3
Florida	150*	38*	62*	20*	1*
Idaho	155	30	70	24	1*
Illinois	158	29*	71*	28	2
Iowa	160*	24*	76*	27	1*
Massachusetts	166*	22*	78*	38*	5*
New Hampshire	165*	21*	79*	35*	4
New Jersey	161*	27*	73*	33*	4
South Dakota	163*	19*	81*	30*	1*
West Virginia	147*	42*	58*	14*	1*

Rounds to zero.

* Significantly different ($p < .05$) from the nation.

NOTE: Eleven states participated in the assessment and met the reporting criteria. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.

Table **A-20.** Average scale scores and achievement-level results in NAEP mathematics for twelfth-grade public school students, by status as English language learners (ELL) and state/jurisdiction: 2009

ELL status and state/jurisdiction	Average scale score	Percentage of students			
		Below *Basic*	At or above *Basic*	At or above *Proficient*	At *Advanced*
ELL					
Nation (public)	**116**	**81**	**19**	**4**	**#**
Arkansas	123	77	23	4	#
Connecticut	‡	‡	‡	‡	‡
Florida	111	84	16	3	#
Idaho	‡	‡	‡	‡	‡
Illinois	‡	‡	‡	‡	‡
Iowa	‡	‡	‡	‡	‡
Massachusetts	121	74	26	8	2
New Hampshire	‡	‡	‡	‡	‡
New Jersey	‡	‡	‡	‡	‡
South Dakota	‡	‡	‡	‡	‡
West Virginia	‡	‡	‡	‡	‡
Not ELL					
Nation (public)	**153**	**36**	**64**	**25**	**3**
Arkansas	146*	40*	60*	16*	#*
Connecticut	157*	30*	70*	30*	3
Florida	150*	39	61	19*	1*
Idaho	153	33	67	23	1*
Illinois	155	33	67	26	2
Iowa	157*	28*	72*	25	1*
Massachusetts	163*	24*	76*	36*	5*
New Hampshire	161*	26*	74*	32*	3
New Jersey	157*	32	68	31*	4
South Dakota	160*	23*	77*	29*	1*
West Virginia	141*	48*	52*	13*	#*

Rounds to zero.

‡ Reporting standards not met. Sample size insufficient to permit a reliable estimate.

* Significantly different ($p < .05$) from the nation.

NOTE: Eleven states participated in the assessment and met the reporting criteria. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.

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