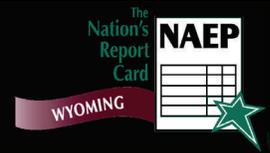


Wyoming Mathematics 2009

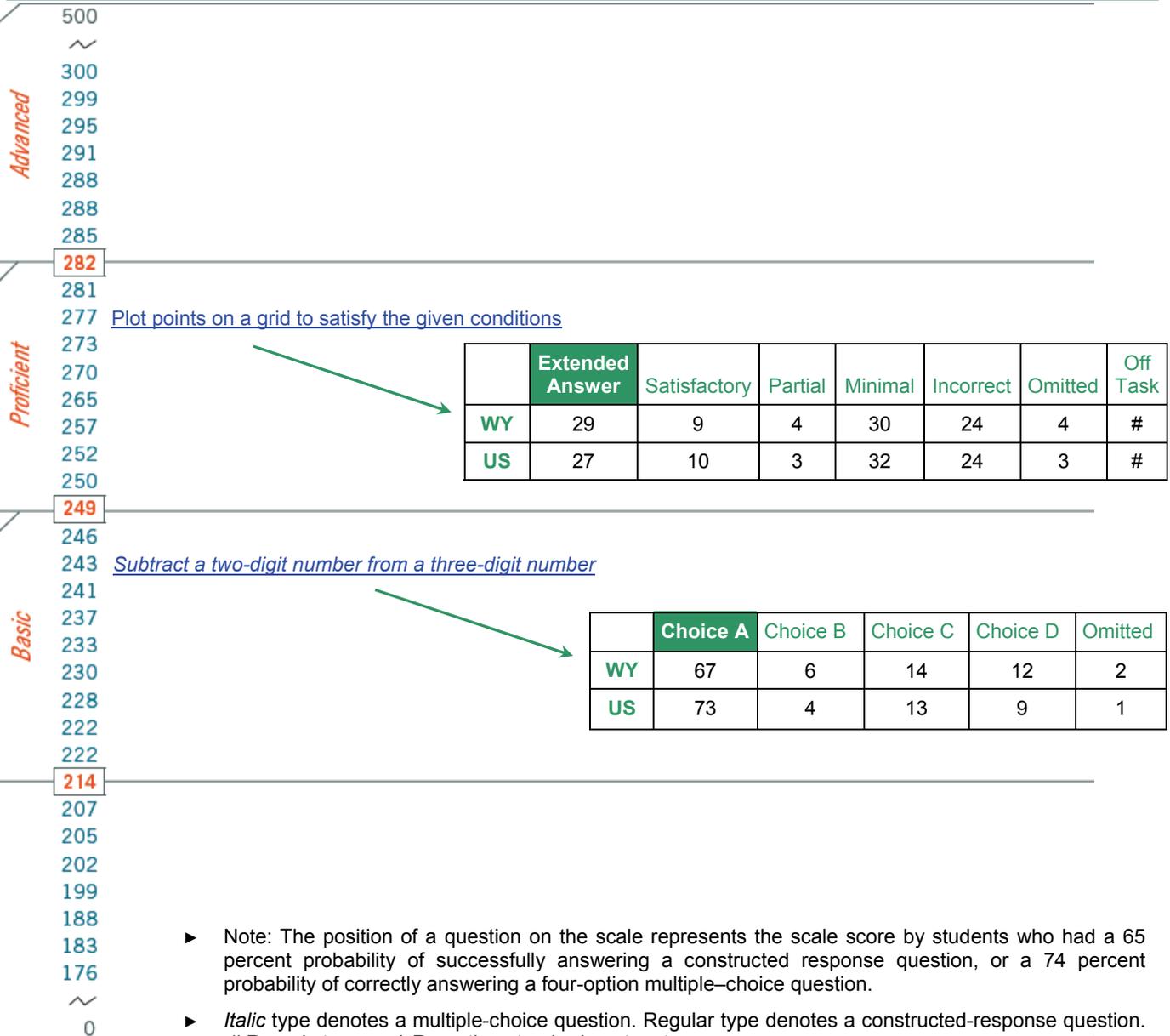


Grade 4 Report

Item Map and Performance Snapshot

The National Assessment of Educational Progress (NAEP) uses both multiple choice and constructed-response test items to assess fourth graders' mathematical skills in five categories: number properties & operations, measurement, geometry, data analysis & probability, and algebra. Scale scores range from 0 to 500, wherein a 214 score denotes NAEP's *Basic* achievement benchmark (i.e., approximately a "grade level" performance); 249 reflects *Proficient* results or competency on challenging material, and 282 is considered to be *Advanced*.

Wyoming and the Nation — Performance on Test Items



- ▶ Note: The position of a question on the scale represents the scale score 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.
- ▶ *Italic* type denotes a multiple-choice question. Regular type denotes a constructed-response question. # Rounds to zero. ‡ Reporting standards not met.
- ▶ SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics

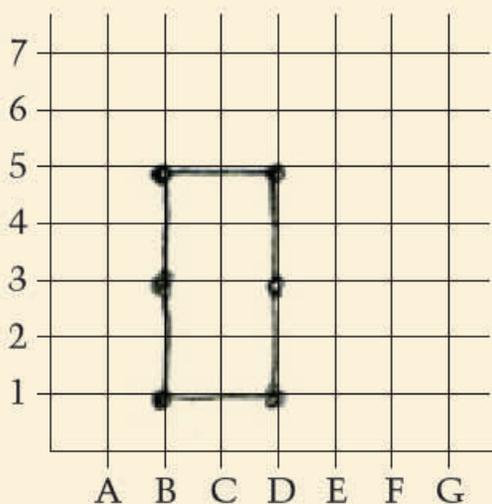
Released Test Item Snapshot

The National Assessment of Educational Progress (NAEP) uses both multiple choice and constructed-response test items to assess fourth graders' mathematical skills in five categories: number properties & operations, measurement, geometry, data analysis & probability, and algebra. Scale scores range from 0 to 500, wherein a 214 score denotes NAEP's *Basic* achievement benchmark (i.e., approximately a "grade level" performance); 249 reflects *Proficient* results or competency on challenging material, and 282 is considered to be *Advanced*.

Plot points on a grid to satisfy the conditions

SAMPLE QUESTION:

On the grid below, plot the points that have coordinates (B, 1), (B, 3), and (D, 5).



Plot 3 more points on the grid so that when you connect all 6 points you will make a rectangle.

List the coordinates for the 3 new points.

(B, 5) (D, 3) (D, 1)

Connect the 6 points to show your rectangle.

- ▶ This test item measures fourth-graders' performance in the geometry content area. It is a multistep problem that requires students to plot and identify points in the plane, and to use visualization skills to determine additional points that could be connected to form a rectangle.
- ▶ Student responses to this question were rated using five scoring levels—Extended, Satisfactory, Partial, Minimal and Incorrect
- ▶ Scoring criteria for Extended, Satisfactory, Partial, and Minimal responses are shown below:

Plot points on a grid to satisfy the conditions: Scoring guide	
Extended answer	Correctly plotted the three given points, (B,1), (B,3), and (D,5), Correctly plotted three other points that formed a rectangle and gave their coordinates, and Connected the dots to form a
Satisfactory	Met all of the criteria for an extended answer, but contained a minor error or omission.
Partial	Correctly plotted the three given points and partially plotted three other points that formed a rectangle and gave their coordinates.
Minimal	Plotted three points clearly (either the given points, the new points, or some combination), or partially met one of the criteria specified for an extended answer.

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

Released Test Item Snapshot

The National Assessment of Educational Progress (NAEP) uses both multiple choice and constructed-response test items to assess fourth graders' mathematical skills in five categories: number properties & operations, measurement, geometry, data analysis & probability, and algebra. Scale scores range from 0 to 500, wherein a 214 score denotes NAEP's *Basic* achievement benchmark (i.e., approximately a "grade level" performance); 249 reflects *Proficient* results or competency on challenging material, and 282 is considered to be *Advanced*.

Subtract a two-digit number from a three-digit number

This test item measures fourth-graders' performance in the number properties and operations content area. The question asks students to subtract a two-digit number from a three-digit number, which requires regrouping to obtain the correct answer of 226 (Choice A). Students were not allowed to use a calculator to answer this question

SAMPLE QUESTION:

$$\begin{array}{r} 301 \\ -75 \\ \hline \end{array}$$

- (A) 226
- (B) 235
- (C) 236
- (D) 374

A common incorrect answer (Choice C), which was selected by almost one-in-seven or 14 percent of grade 4 students in Wyoming, is a place-value error that can result from incorrect grouping in the ten's place.

	Choice A	Choice B	Choice C	Choice D	Omitted
WY	67	6	14	12	2
US	73	4	13	9	1

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