The National Assessment of Educational Progress

A Treasure Trove of Mathematics Problems

Doris J. Mohr
University of Southern Indiana

Crystal Walcott
Indiana University Purdue University Columbus
NAEP – National Assessment of Educational Progress

http://nces.ed.gov/nationsreportcard/
NAEP Programs

- **Main NAEP** – results are representative of the entire US population

- **State NAEP** – same items and testing format, reports achievement for fourth and eighth grade students on a state-by-state basis

- **Long-Term Trend** – uses different items, national sample, and testing schedule.
NAEP Content Strands in Mathematics

- Number sense, properties, and operations
- Measurement
- Geometry and spatial sense
- Data analysis, statistics, and probability
- Algebra and functions
NAEP Item Formats

- **Multiple choice format**
  - 4th grade – four choices
  - 8th & 12th grades – five choices

- **Short constructed-response**
  - Two types
    1. Students write answer in space provided.
    2. Multiple questions or a brief rationale.

- **Extended constructed-response**
  - Scored with focused, holistic rubrics
Reporting Results:
Scale Score and Achievement Levels

- **Scale scores**
  - Range from 0 to 500
  - Available by content strand
  - Available by demographic characteristics
  - Designed to get a sense of performance of the nation as a whole, not performance of individual students

- **Achievement levels**
  - Basic, proficient, and advanced
  - Setting of achievement levels is controversial
  - (proficient level is very ambitious)
Questionnaires

- **Student Questionnaire**
  
  All students complete two five-minute questionnaires before the cognitive items and one five-minute questionnaire after completing the items

  - #1 focuses on demographics
  - #2 focuses on mathematics background & courses
  - #3 focuses on how hard the students tried and the difficulty of the assessment

- **Teacher Questionnaire**

- **School Administrator Questionnaire**
NAEP Online Tools
Nation’s Report Card Homepage

http://nces.ed.gov/nationsreportcard/

National Assessment of Educational Progress (NAEP)

A First Look: 2013 Mathematics and Reading Is Here! Learn More

Nationally representative samples of more than 376,000 fourth-graders and 341,000 eighth-graders participated in the 2013 mathematics and reading assessments.

The National Assessment of Educational Progress (NAEP) is the largest nationally representative and continuing assessment of what America's students know and can do in various subject areas. Learn more...

NAEP Overview

Information For...

Read An Overview of NAEP
Download Descarga en español

IN THE SPOTLIGHT
Technology Based Assessments
NAEP is engaging students with technology
Learn More About the Tools Available Online

http://nces.ed.gov/nationsreportcard/about/naeptools.asp
Main NAEP Question Tool
Accessing the Questions

Click on “Try it Now” from the tools and applications page........
Accessing the Questions

Or click on “Questions Tool” link
Main NAEP Mathematics Questions Search

Main NAEP Mathematics Questions Search

NAEP Questions Tool

What can I do here?

Search Results (852 of 852)  

<table>
<thead>
<tr>
<th>Year</th>
<th>Grade</th>
<th>Block</th>
<th>Type</th>
<th>Difficulty</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>4</td>
<td>M5</td>
<td>1</td>
<td>MC</td>
<td>Easy</td>
</tr>
<tr>
<td>2009</td>
<td>4</td>
<td>M5</td>
<td>2</td>
<td>MC</td>
<td>Easy</td>
</tr>
<tr>
<td>2009</td>
<td>4</td>
<td>M5</td>
<td>3</td>
<td>SCR</td>
<td>Easy</td>
</tr>
<tr>
<td>2009</td>
<td>4</td>
<td>M5</td>
<td>4</td>
<td>BCR</td>
<td>Medium</td>
</tr>
<tr>
<td>2009</td>
<td>4</td>
<td>M5</td>
<td>5</td>
<td>MC</td>
<td>Medium</td>
</tr>
<tr>
<td>2009</td>
<td>4</td>
<td>M5</td>
<td>6</td>
<td>ECR</td>
<td>Hard</td>
</tr>
<tr>
<td>2009</td>
<td>4</td>
<td>M5</td>
<td>7</td>
<td>SCR</td>
<td>Easy</td>
</tr>
<tr>
<td>2009</td>
<td>4</td>
<td>M5</td>
<td>8</td>
<td>BCR</td>
<td>Easy</td>
</tr>
<tr>
<td>2009</td>
<td>4</td>
<td>M5</td>
<td>9</td>
<td>MC</td>
<td>Medium</td>
</tr>
<tr>
<td>2009</td>
<td>4</td>
<td>M5</td>
<td>10</td>
<td>MC</td>
<td>Hard</td>
</tr>
</tbody>
</table>

To preview a question here, click on a row above.

## NAEP Questions Tool

### Math Search Results

<table>
<thead>
<tr>
<th>Year</th>
<th>Grade</th>
<th>Block</th>
<th>Type</th>
<th>Difficulty</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>4</td>
<td>M6</td>
<td>SCR</td>
<td>Medium</td>
<td>Use given pieces to make shape with certain properties</td>
</tr>
<tr>
<td>2009</td>
<td>4</td>
<td>M6</td>
<td>SCR</td>
<td>Medium</td>
<td>Extend a number pattern and write rule</td>
</tr>
<tr>
<td>2009</td>
<td>4</td>
<td>M6</td>
<td>SCR</td>
<td>Medium</td>
<td>Determine missing numbers on a number line</td>
</tr>
<tr>
<td>2009</td>
<td>4</td>
<td>M10</td>
<td>SCR</td>
<td>Medium</td>
<td>Reason about odd and even numbers</td>
</tr>
<tr>
<td>2007</td>
<td>4</td>
<td>M9</td>
<td>SCR</td>
<td>Medium</td>
<td>Outline different squares in a figure</td>
</tr>
<tr>
<td>2007</td>
<td>4</td>
<td>M9</td>
<td>SCR</td>
<td>Medium</td>
<td>Compare unit fractions to solve a problem</td>
</tr>
<tr>
<td>2007</td>
<td>4</td>
<td>M11</td>
<td>SCR</td>
<td>Medium</td>
<td>Add data to a bar graph</td>
</tr>
<tr>
<td>2007</td>
<td>4</td>
<td>M11</td>
<td>SCR</td>
<td>Medium</td>
<td>Explain how to find perimeter of a given shape</td>
</tr>
<tr>
<td>2007</td>
<td>4</td>
<td>M11</td>
<td>SCR</td>
<td>Medium</td>
<td>Identify color with highest chance of being chosen</td>
</tr>
<tr>
<td>2005</td>
<td>4</td>
<td>M4</td>
<td>SCR</td>
<td>Medium</td>
<td>Complete a bar graph from a description of data</td>
</tr>
</tbody>
</table>

To preview a question, click on a row above.

### Item Preview

**NAEP Questions Tool**

**Analyze Data | Sample Questions | State Comparisons | State Profiles | District Profiles**

#### Search Results (27 of 852)

<table>
<thead>
<tr>
<th>Year</th>
<th>Grade</th>
<th>Block</th>
<th>Type</th>
<th>Difficulty</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>4</td>
<td>M5</td>
<td>SCR</td>
<td>Medium</td>
<td>Use given pieces to make a shape with certain properties</td>
</tr>
<tr>
<td>2009</td>
<td>4</td>
<td>M5</td>
<td>SCR</td>
<td>Medium</td>
<td>Extend a number pattern and write rule</td>
</tr>
<tr>
<td>2009</td>
<td>4</td>
<td>M5</td>
<td>SCR</td>
<td>Medium</td>
<td>Determine missing numbers on a number line</td>
</tr>
<tr>
<td>2009</td>
<td>4</td>
<td>M10</td>
<td>SCR</td>
<td>Medium</td>
<td>Reason about odd and even numbers</td>
</tr>
<tr>
<td>2007</td>
<td>4</td>
<td>M9</td>
<td>SCR</td>
<td>Medium</td>
<td>Outline different squares in a figure</td>
</tr>
<tr>
<td>2007</td>
<td>4</td>
<td>M9</td>
<td>SCR</td>
<td>Medium</td>
<td>Compare unit fractions to solve a problem</td>
</tr>
<tr>
<td>2007</td>
<td>4</td>
<td>M11</td>
<td>SCR</td>
<td>Medium</td>
<td>Add data to a bar graph</td>
</tr>
<tr>
<td>2007</td>
<td>4</td>
<td>M11</td>
<td>SCR</td>
<td>Medium</td>
<td>Explain how to find perimeter of a given shape</td>
</tr>
<tr>
<td>2007</td>
<td>4</td>
<td>M11</td>
<td>SCR</td>
<td>Medium</td>
<td>Identify color with highest chance of being chosen</td>
</tr>
<tr>
<td>2005</td>
<td>4</td>
<td>M4</td>
<td>SCR</td>
<td>Medium</td>
<td>Complete a bar graph from a description of data</td>
</tr>
</tbody>
</table>

### View Question Detail

**Questions 1-6 refer to pieces R, T, and X.**

You will need two pieces labeled X to answer this question.

4. Use the pieces to make a shape that has these properties.

**Accessible version**

Questions 1-5 refer to pieces R, T, and X.

You will need two pieces labeled X to answer this question.

4. Use the pieces to make a shape that has these properties.

- It has four sides.
- No pieces overlap.
- No two sides are parallel.

In the space below, trace the shape.

Draw a line to show where the two pieces meet.
**NAEP Questions Tool**

**Analysis Data | Sample Questions | State Comparisons | State Profiles | District Profiles**

**What can I do here?**

**Question Information**

- **Description:** Use given pieces to make a shape with certain properties
- **Grade:** 4
- **Year:** 2009
- **Block & Number:** Block M, Question #4
- **Type of Question:** Short constructed response
- **Difficulty:** Medium (43.7% correct)
- **Content Classification:**
  - **Content Area:** Geometry
  - **Complexity (2005 and on):** Moderate

**Question**

```
R  R  R
R  R  R
R  R  R
T  T  T
T  T  T
```

**Key/Scoring Guide | Sample Responses | National Data | Jurisdiction Data**

**Hide additional materials**

- **Bookmark**
- **Tutorial**
- **Help**
- **Add to My Workspace (0)**

- **Question 1 of 27**
**Key/Scoring Guide**

**NAEP Questions Tool**

**Question Information**
- **Description**: Use given pieces to make shape with certain properties
- **Grade**: 4
- **Year**: 2003
- **Block & Number**: Block M5 Question #4
- **Type of Question**: Short Constructed Response
- **Difficulty**: Medium (43.7% Correct)
- **Content Classification**: Geometry
- **Complexity (2005 and on)**: Moderate

**Solution**

![Diagram](image)

**Score & Description**

**Correct**
Correct response

**Partial**
1. A four-sided figure with parallel sides with meeting lines drawn.
   OR
1. A correct shape but meeting lines is incorrect.
   OR
1. A 2-sided figure or a figure with more than four sides, and the sides are not parallel with meeting lines drawn.
   OR
1. Either of the correct shapes is drawn without the line where the pieces meet

**Incorrect**
Incorrect response
4. Use the pieces to make a shape that has these properties.

- It has four sides.
- No pieces overlap.
- No two sides are parallel.

In the space below, trace the shape.

Draw the line to show where the two pieces meet.
National Performance Summary

NAEP Questions Tool

Analyze Data | Sample Questions | State Comparisons | State Profiles | District Profiles

What can I do here? ( )

Question Information
- Description: Use given pieces to make shape with certain properties
  - Grade: 4
  - Year: 2009
  - Block & Number: Block KS Question #4
  - Type of Question: Short Constructed Response
  - Difficulty: Medium (42.7% Correct)
  - Content Classification:
    - Content Area: Geometry
    - Complexity (2005 and 2007): Moderate

NAEP national performance results in Mathematics at grade 4 - 2009
Use given pieces to make shape with certain properties

<table>
<thead>
<tr>
<th>Score</th>
<th>Percentage of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Score</td>
<td>25%</td>
</tr>
<tr>
<td>Partial</td>
<td>45%</td>
</tr>
<tr>
<td>Correct</td>
<td>21%</td>
</tr>
<tr>
<td>Corrected</td>
<td>5%</td>
</tr>
<tr>
<td>Off-task #</td>
<td>0</td>
</tr>
</tbody>
</table>

# Rounds to zero.

NOTE: These results are for public and non-public school students. Percentages may not add to 100 due to rounding.

National "More Data"
### Jurisdiction Data

**Question Information**
- **Category:** Mathematics
- **Description:** Use given pieces to make shape with certain properties
- **Grade:** 4
- **Year:** 2000
- **Block & Number:** Block #5 Question #4
- **Type of Question:** Short Constructed Response
- **Difficulty:** Medium (43.7% Correct)
- **Content Classification:**
  - **Content Area:** Geometry
  - **Complexity:** (2005 and on): Moderate

**National Average Scale Score and Percentage of Students in Each Response Category**

NATIONAL EDUCATION PROFILES AT GRADE 4: 2009

Use given pieces to make shape with certain properties.

<table>
<thead>
<tr>
<th>All students</th>
<th>Incorrect</th>
<th>Partial</th>
<th>Correct</th>
<th>On task</th>
<th>Off task</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>Avg. Score (S.E.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alabama</td>
<td>218 (2.8)</td>
<td>37.2 (2.0)</td>
<td>245 (1.6)</td>
<td>17 (1.6)</td>
<td>7 (1.1)</td>
</tr>
<tr>
<td>Alaska</td>
<td>228 (3.1)</td>
<td>25 (1.2)</td>
<td>250 (2.8)</td>
<td>25 (1.8)</td>
<td>9 (2.2)</td>
</tr>
<tr>
<td>Arizona</td>
<td>221 (2.1)</td>
<td>25 (0.7)</td>
<td>249 (2.7)</td>
<td>19 (1.7)</td>
<td>9 (2.6)</td>
</tr>
<tr>
<td>Arkansas</td>
<td>228 (2.7)</td>
<td>31 (0.7)</td>
<td>262 (2.7)</td>
<td>20 (1.7)</td>
<td>8 (2.2)</td>
</tr>
<tr>
<td>California</td>
<td>221 (2.3)</td>
<td>30 (1.0)</td>
<td>250 (0.7)</td>
<td>19 (1.7)</td>
<td>157 (3.0)</td>
</tr>
<tr>
<td>Colorado</td>
<td>232 (0.8)</td>
<td>28 (1.5)</td>
<td>275 (2.8)</td>
<td>24 (1.8)</td>
<td>11 (0.9)</td>
</tr>
<tr>
<td>Connecticut</td>
<td>225 (2.1)</td>
<td>29 (1.0)</td>
<td>265 (2.4)</td>
<td>24 (1.9)</td>
<td>4 (0.9)</td>
</tr>
<tr>
<td>Delaware</td>
<td>227 (2.7)</td>
<td>21 (1.4)</td>
<td>249 (2.3)</td>
<td>22 (1.7)</td>
<td>3 (0.8)</td>
</tr>
<tr>
<td>District of Columbia</td>
<td>214 (3.8)</td>
<td>38 (0.9)</td>
<td>237 (3.4)</td>
<td>17 (1.9)</td>
<td>10 (1.4)</td>
</tr>
<tr>
<td>Florida</td>
<td>226 (2.3)</td>
<td>29 (1.5)</td>
<td>244 (2.6)</td>
<td>26 (1.6)</td>
<td>5 (0.8)</td>
</tr>
<tr>
<td>Georgia</td>
<td>228 (2.3)</td>
<td>29 (1.6)</td>
<td>249 (2.7)</td>
<td>19 (1.7)</td>
<td>7 (1.1)</td>
</tr>
<tr>
<td>Hawaii</td>
<td>224 (2.0)</td>
<td>27 (1.5)</td>
<td>250 (2.6)</td>
<td>23 (1.8)</td>
<td>7 (1.1)</td>
</tr>
<tr>
<td>Maine</td>
<td>228 (2.3)</td>
<td>29 (1.4)</td>
<td>249 (2.7)</td>
<td>25 (1.6)</td>
<td>9 (2.6)</td>
</tr>
<tr>
<td>Illinois</td>
<td>225 (2.0)</td>
<td>32 (1.0)</td>
<td>243 (2.6)</td>
<td>19 (1.5)</td>
<td>4 (0.7)</td>
</tr>
<tr>
<td>Indiana</td>
<td>223 (2.2)</td>
<td>31 (1.0)</td>
<td>244 (1.4)</td>
<td>47 (1.1)</td>
<td>5 (0.9)</td>
</tr>
<tr>
<td>Iowa</td>
<td>232 (2.9)</td>
<td>27 (1.0)</td>
<td>245 (2.6)</td>
<td>17 (1.3)</td>
<td>2 (0.9)</td>
</tr>
<tr>
<td>Kansas</td>
<td>232 (2.3)</td>
<td>28 (1.0)</td>
<td>246 (4.5)</td>
<td>43 (2.3)</td>
<td>6 (1.7)</td>
</tr>
<tr>
<td>Kentucky</td>
<td>224 (2.6)</td>
<td>27 (1.0)</td>
<td>247 (2.6)</td>
<td>20 (1.6)</td>
<td>4 (0.9)</td>
</tr>
<tr>
<td>Louisiana</td>
<td>224 (2.8)</td>
<td>27 (1.0)</td>
<td>245 (3.7)</td>
<td>17 (2.0)</td>
<td>5 (0.9)</td>
</tr>
<tr>
<td>Maine</td>
<td>228 (2.8)</td>
<td>24 (2.0)</td>
<td>244 (1.7)</td>
<td>47 (1.7)</td>
<td>25 (2.1)</td>
</tr>
<tr>
<td>Maryland</td>
<td>231 (2.2)</td>
<td>26 (2.0)</td>
<td>245 (1.7)</td>
<td>45 (2.1)</td>
<td>25 (2.1)</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>228 (2.5)</td>
<td>25 (1.5)</td>
<td>252 (1.7)</td>
<td>45 (2.3)</td>
<td>30 (2.4)</td>
</tr>
<tr>
<td>Michigan</td>
<td>227 (2.9)</td>
<td>24 (1.0)</td>
<td>245 (4.5)</td>
<td>43 (2.2)</td>
<td>6 (1.7)</td>
</tr>
<tr>
<td>Minnesota</td>
<td>224 (2.5)</td>
<td>25 (1.0)</td>
<td>246 (4.5)</td>
<td>43 (2.2)</td>
<td>6 (1.7)</td>
</tr>
<tr>
<td>Mississippi</td>
<td>223 (2.8)</td>
<td>27 (1.0)</td>
<td>245 (4.5)</td>
<td>43 (2.2)</td>
<td>6 (1.7)</td>
</tr>
<tr>
<td>Missouri</td>
<td>228 (2.3)</td>
<td>27 (1.0)</td>
<td>245 (4.5)</td>
<td>43 (2.2)</td>
<td>6 (1.7)</td>
</tr>
<tr>
<td>Montana</td>
<td>223 (2.3)</td>
<td>27 (1.0)</td>
<td>245 (4.5)</td>
<td>43 (2.2)</td>
<td>6 (1.7)</td>
</tr>
<tr>
<td>Nebraska</td>
<td>222 (2.3)</td>
<td>27 (1.0)</td>
<td>243 (1.7)</td>
<td>46 (2.0)</td>
<td>24 (2.2)</td>
</tr>
</tbody>
</table>
Adding Items to Workspace

### NAEP Questions Tool

#### Analyze Data | Sample Questions | State Comparisons | State Profiles | District Profiles

**What can I do here?**

- Search for Questions
- Mathematics Search Results
- Question Detail

**Question Information**

- **Description:** Use given pieces to make shape with certain properties
- **Grade:** 4
- **Year:** 2001
- **Block & Number:** Block 15 Question 4
- **Type of Question:** Short Constructed Response
- **Difficulty:** Medium (45.7% Correct)
- **Content Classification:**
  - **Content Area:** Geometry
  - **Complexity (2005 and on):** Moderate

#### National Average Scale Score and Percentage of Students in Each Response Category

Use given pieces to make shape with certain properties

<table>
<thead>
<tr>
<th>All States (Table only)</th>
<th>All States (State only)</th>
<th>All States (State &amp; National Data)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All States (Table only)</td>
<td>All States (State only)</td>
<td>All States (State &amp; National Data)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question</th>
<th>Key</th>
<th>Scoring Guide</th>
<th>Sample Responses</th>
<th>Data</th>
<th>Jurisdiction Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>All States (Table only)</td>
<td>All States (State only)</td>
<td>All States (State &amp; National Data)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Grade 4</th>
<th>Grade 5</th>
<th>Grade 6</th>
<th>Grade 7</th>
<th>Grade 8</th>
<th>Grade 9</th>
<th>Grade 10</th>
<th>Grade 11</th>
<th>Grade 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alabama</td>
<td>Alaska</td>
<td>Arizona</td>
<td>Arkansas</td>
<td>California</td>
<td>Colorado</td>
<td>Connecticut</td>
<td>Delaware</td>
<td>District of Columbia</td>
</tr>
<tr>
<td>Florida</td>
<td>Georgia</td>
<td>Hawaii</td>
<td>Idaho</td>
<td>Illinois</td>
<td>Indiana</td>
<td>Iowa</td>
<td>Kansas</td>
<td>Kentucky</td>
</tr>
<tr>
<td>Louisiana</td>
<td>Maine</td>
<td>Maryland</td>
<td>Massachusetts</td>
<td>Michigan</td>
<td>Minnesota</td>
<td>Mississippi</td>
<td>Missouri</td>
<td>Montana</td>
</tr>
<tr>
<td>Nebraska</td>
<td>New Hampshire</td>
<td>New Jersey</td>
<td>New Mexico</td>
<td>New York</td>
<td>North Carolina</td>
<td>North Dakota</td>
<td>Ohio</td>
<td>Oklahoma</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Incorrect</th>
<th>Partial</th>
<th>Correct</th>
<th>Open Task</th>
<th>Row Score</th>
<th>Row Percent</th>
<th>Row Score</th>
<th>Row Percent</th>
<th>Row Score</th>
<th>Row Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alabama</td>
<td>Alaska</td>
<td>Arizona</td>
<td>Arkansas</td>
<td>California</td>
<td>Colorado</td>
<td>Connecticut</td>
<td>Delaware</td>
<td>District of Columbia</td>
<td></td>
</tr>
<tr>
<td>Florida</td>
<td>Georgia</td>
<td>Hawaii</td>
<td>Idaho</td>
<td>Illinois</td>
<td>Indiana</td>
<td>Iowa</td>
<td>Kansas</td>
<td>Kentucky</td>
<td></td>
</tr>
<tr>
<td>Louisiana</td>
<td>Maine</td>
<td>Maryland</td>
<td>Massachusetts</td>
<td>Michigan</td>
<td>Minnesota</td>
<td>Mississippi</td>
<td>Missouri</td>
<td>Montana</td>
<td></td>
</tr>
<tr>
<td>Nebraska</td>
<td>New Hampshire</td>
<td>New Jersey</td>
<td>New Mexico</td>
<td>New York</td>
<td>North Carolina</td>
<td>North Dakota</td>
<td>Ohio</td>
<td>Oklahoma</td>
<td></td>
</tr>
</tbody>
</table>
Adding Items to Workspace
### Adding Items to Workspace

#### NAEP Questions Tool

**Search Results (27 of 832)**

<table>
<thead>
<tr>
<th>Year</th>
<th>Grade</th>
<th>Block</th>
<th>Type</th>
<th>Difficulty</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>4</td>
<td>M5</td>
<td>SCR</td>
<td>Medium</td>
<td>Use given pieces to make shapes with certain properties</td>
</tr>
<tr>
<td>2009</td>
<td>4</td>
<td>M5</td>
<td>SCR</td>
<td>Medium</td>
<td>Extend a number pattern and write rule</td>
</tr>
<tr>
<td>2009</td>
<td>4</td>
<td>M5</td>
<td>SCR</td>
<td>Medium</td>
<td>Determine missing numbers on a number line</td>
</tr>
<tr>
<td>2009</td>
<td>4</td>
<td>M10</td>
<td>SCR</td>
<td>Medium</td>
<td>Reason about odd and even numbers</td>
</tr>
<tr>
<td>2007</td>
<td>4</td>
<td>M9</td>
<td>SCR</td>
<td>Medium</td>
<td>Outline different squares in a figure</td>
</tr>
<tr>
<td>2007</td>
<td>4</td>
<td>M9</td>
<td>SCR</td>
<td>Medium</td>
<td>Compare unit fractions to solve a problem</td>
</tr>
<tr>
<td>2007</td>
<td>4</td>
<td>M11</td>
<td>SCR</td>
<td>Medium</td>
<td>Add data to a bar graph</td>
</tr>
<tr>
<td>2007</td>
<td>4</td>
<td>M11</td>
<td>SCR</td>
<td>Medium</td>
<td>Explain how to find perimeter of a given shape</td>
</tr>
<tr>
<td>2007</td>
<td>4</td>
<td>M11</td>
<td>SCR</td>
<td>Medium</td>
<td>Identify color with highest chance of being chosen</td>
</tr>
<tr>
<td>2005</td>
<td>4</td>
<td>M4</td>
<td>SCR</td>
<td>Medium</td>
<td>Complete a bar graph from a description of data</td>
</tr>
<tr>
<td>2005</td>
<td>4</td>
<td>M4</td>
<td>SCR</td>
<td>Medium</td>
<td>Solve a multi-step story problem</td>
</tr>
<tr>
<td>2005</td>
<td>4</td>
<td>M4</td>
<td>SCR</td>
<td>Medium</td>
<td>Determine missing numbers in number sentence</td>
</tr>
<tr>
<td>2003</td>
<td>4</td>
<td>M9</td>
<td>SCR</td>
<td>Medium</td>
<td>Complete a letter pattern</td>
</tr>
<tr>
<td>2003</td>
<td>4</td>
<td>M10</td>
<td>SCR</td>
<td>Medium</td>
<td>Locate two points on a grid, given coordinates</td>
</tr>
<tr>
<td>2003</td>
<td>4</td>
<td>M10</td>
<td>SCR</td>
<td>Medium</td>
<td>Read the temperature shown on a thermometer</td>
</tr>
<tr>
<td>1996</td>
<td>4</td>
<td>M9</td>
<td>SCR</td>
<td>Medium</td>
<td>Relate a Fraction to 1</td>
</tr>
<tr>
<td>1996</td>
<td>4</td>
<td>M10</td>
<td>SCR</td>
<td>Medium</td>
<td>Assemble Pieces to Form Shape</td>
</tr>
</tbody>
</table>

To preview a question here, click on a row above.
## NAEP Questions Tool

### Mathematics My Workspace

**What can I do here?**
- Search for Questions
- Mathematics My Workspace
- Analyze Data
- Sample Questions
- State Comparisons
- State Profiles
- District Profiles

### My Workspace (27)

<table>
<thead>
<tr>
<th>Year</th>
<th>Grade</th>
<th>Block</th>
<th>#</th>
<th>Type</th>
<th>Difficulty</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>4</td>
<td>K5</td>
<td>4</td>
<td>SCR</td>
<td>Medium</td>
<td>Use given pieces to make shape with certain properties</td>
</tr>
<tr>
<td>2009</td>
<td>4</td>
<td>K5</td>
<td>12</td>
<td>SCR</td>
<td>Medium</td>
<td>Extend a number pattern and write rule</td>
</tr>
<tr>
<td>2008</td>
<td>4</td>
<td>K5</td>
<td>15</td>
<td>SCR</td>
<td>Medium</td>
<td>Determine missing numbers on a number line</td>
</tr>
<tr>
<td>2009</td>
<td>4</td>
<td>M1</td>
<td>11</td>
<td>SCR</td>
<td>Medium</td>
<td>Reason about odd and even numbers</td>
</tr>
<tr>
<td>2007</td>
<td>4</td>
<td>K9</td>
<td>13</td>
<td>SCR</td>
<td>Medium</td>
<td>Outline different squares in a figure</td>
</tr>
<tr>
<td>2007</td>
<td>4</td>
<td>M9</td>
<td>18</td>
<td>SCR</td>
<td>Medium</td>
<td>Compare unit fractions to solve a problem</td>
</tr>
<tr>
<td>2007</td>
<td>4</td>
<td>M1</td>
<td>4</td>
<td>SCR</td>
<td>Medium</td>
<td>Add data to a bar graph</td>
</tr>
<tr>
<td>2007</td>
<td>4</td>
<td>M1</td>
<td>14</td>
<td>SCR</td>
<td>Medium</td>
<td>Explain how to find perimeter of a given shape</td>
</tr>
<tr>
<td>2007</td>
<td>4</td>
<td>M1</td>
<td>15</td>
<td>SCR</td>
<td>Medium</td>
<td>Identify color with highest chance of being chosen</td>
</tr>
<tr>
<td>2005</td>
<td>4</td>
<td>M4</td>
<td>7</td>
<td>SCR</td>
<td>Medium</td>
<td>Complete a bar graph from a description of data</td>
</tr>
<tr>
<td>2005</td>
<td>4</td>
<td>M4</td>
<td>8</td>
<td>SCR</td>
<td>Medium</td>
<td>Solve a multi-step story problem</td>
</tr>
<tr>
<td>2005</td>
<td>4</td>
<td>M4</td>
<td>12</td>
<td>SCR</td>
<td>Medium</td>
<td>Determine missing numbers in number sentence</td>
</tr>
<tr>
<td>2003</td>
<td>4</td>
<td>M6</td>
<td>8</td>
<td>SCR</td>
<td>Medium</td>
<td>Complete a letter pattern</td>
</tr>
<tr>
<td>2003</td>
<td>4</td>
<td>M1</td>
<td>10</td>
<td>SCR</td>
<td>Medium</td>
<td>Locate two points on a grid, given coordinates</td>
</tr>
<tr>
<td>2003</td>
<td>4</td>
<td>M1</td>
<td>13</td>
<td>SCR</td>
<td>Medium</td>
<td>Read the temperature shown on a thermometer</td>
</tr>
<tr>
<td>1668</td>
<td>4</td>
<td>M1</td>
<td>1</td>
<td>SCR</td>
<td>Medium</td>
<td>Relate a Fraction to 1</td>
</tr>
<tr>
<td>1668</td>
<td>4</td>
<td>M1</td>
<td>2</td>
<td>SCR</td>
<td>Medium</td>
<td>Assemble Places to Form Shape</td>
</tr>
</tbody>
</table>

**To preview a question here, click on a row above.**
1. In each figure below, outline a square. The squares must not be the same size.

2. Mark says $\frac{1}{4}$ of his candy bar is smaller than $\frac{1}{5}$ of the same candy bar.

   Is Mark right?  ○ Yes  ○ No

   Draw a picture or use words to explain why you think Mark is right or wrong.

3. The students in a class each counted the number of letters in their first names. The class made the graph below of the results.

A new student, Victor, joined the class. Draw on the graph to include the data for Victor.
Example of Multiple-choice item

A loaded trailer truck weighs 26,643 kilograms. When the trailer truck is empty, it weighs 10,547 kilograms. About how much does the load weigh?

A. 14,000 kilograms
B. 16,000 kilograms
C. 18,000 kilograms
D. 36,000 kilograms
Example of Extended Constructed Response Item

1. The graph below and written summary on the next page present information about the sleep habits of newborn babies, one year olds, four year olds and ten year olds. Each solid bar represents a period of sleep.

Some of the information presented in the summary does not agree with the information in the graph.

For example, there is an error in sentence 1 that has already been identified and corrected for you.

![Graph showing sleep habits of young children]

- In sentences 2 and 3 below, underline the information that is not correct based on the graph. There is an error in each statement.
- Then, write the correct information above the errors in sentences 2 and 3.

(1) According to research that has been done on sleep habits and patterns of
sleep in children, the number of hours that a newborn baby sleeps in a 24-hour
more
period of time is less than that of a ten year old.

(2) From the time a child is born until it reaches age ten, the number of
different time periods of sleep increases as the child grows older.

(3) Newborns need 2 more hours of sleep than ten year olds between 6 a.m.
and 6 p.m.

Did you use the calculator on this question?

- Yes  
- No
Long-term Trend Item Tool
Long-term Trend Item Search

NAEP Enhanced Question Tool

Explore NAEP Questions

After each assessment, NAEP releases dozens of sample questions to the public—more than 3,000 questions are currently available. The tools featured here can be used to supplement classroom instruction, provide additional insight into the content of the assessment, and show what students nationally or in your state or district know and can do. For more information, print a quick reference guide about NAEP or find out how NAEP questions are scored.

What's New?
Try out the enhanced NAEP Questions Tool!
- Sort and select questions with “drag and drop” option
- Try customized “Test Yourself” feature
- Create online self-scoring tests for students
- Compare results to student performance across nation
Enhanced Question Tool – Create an Account

The NAEP Questions Tool

Search NAEP Questions

- Search hundreds of questions by grade, year, and content area, and
- See actual student responses from NAEP assessments.

Try NAEP Questions

- Test yourself with actual NAEP questions.

Create Tests

Select a preformatted test

- Use one of our pre-formatted assessments, or make your own customized assessment for your classroom.
- Create an account and you'll be able to make a student roster and save your assessments for use throughout the school year.

Already have an account? Sign In
Create an account
Enhanced Question Tool – Create an Account

The NAEP Questions Tool

Search NAEP
- Search hundreds of NAEP questions
- See actual student responses

Try NAEP Questions
- Test yourself with a NAEP question

Create Tests
- Select a preformatted assessment
- Use one of our pre-formatted assessments, or make your own customized assessment for your classroom
- Create an account and you'll be able to make a student roster and save your assessments for use throughout the school year

Already have an account? Sign In
Create an account

Create Account Setup
Create an Account to save and manage lists, create test rosters, and administer tests online.
In order to create an account, enter your Email address below and click the Send Email button. You will be sent an email containing a link to a page that will allow you to create an account.

Email Address: walcott@fupuc.edu

Send Email Close
Enhanced Question Tool – Create an Account
To create a user account in the NAEP Questions Tool, click the following link. If clicking the link does not work, cut and paste the link into a browser.

Create an Account to save and manage lists, create test rosters, and administer tests online.

User ID: (Email Address)

Password:

*Passwords must be a minimum of 8 characters in length and must have at least one of each of the following: upper case letter, lower case letter, number, one of these special characters: ! @ # $ % ^ & * ( ) _ + - =

Confirm Password:

Create Account
Create an Account to save and manage lists, create test rosters, and administer tests online.

User ID: (Email Address)
walcottc@iupui.edu

Password:
******
*Passwords must be a minimum of 8 characters in length and must have at least one of each of the following: Upper case letter, lower case letter, number, one of these special characters: ! @ # $ % ^ & * ( ) _ + - =

Confirm Password:
******

Create Account
Your Account has been created. You can close this browser window or tab and continue working in the NAEP Questions Tool.
Signing into Account

The NAEP Questions Tool

Search NAEP Questions
- Search hundreds of questions by grade, year, and content area, and
- See actual student responses from NAEP assessments.

Try NAEP Questions
- Test yourself with actual NAEP questions.

Create Tests
- Select a preformatted test
- Make a customized test
- Use one of our pre-formatted assessments, or make your own customized assessment for your classroom.
- Create an account and you'll be able to make a student roster and save your assessments for use throughout the school year.

Already have an account? Sign in
Signing into Account

Please enter User ID (Email Address) and Password. Create an Account to save and manage lists, create test rosters, and administer tests online.

User ID: (Email Address)
walcottc@iupac.edu

Password:

Sign In  Close
Create a Customized Test
Create a Customized Test

http://nces.ed.gov/nationsreportcard/nqt
Customized Test Options

NAEP Questions Tool

Select subject and grade(s) to get started:

- **Subjects**: Mathematics
- **Grade**: ○ Grade 4, ○ Grade 6, ○ Grade 12

Select any of the available options below to further narrow your search results:

- **Content Classifications**
  - Content Area
    - Number properties and operations
    - Measurement
    - Geometry
    - Data analysis and Probability
  - Algebra
  - Complexity (2005 and on)
    - Low
    - Moderate
    - High
  - Ability (1990-2003)
    - Conceptual understanding
    - Procedural knowledge
    - Problem solving
- **Types**
  - Type
    - Multiple Choice - MC
    - Short Constructed Response - SCR
    - Extended Constructed Response - ECR
- **Years**
  - ○ All Years
  - 2013
  - 2011
  - 2009
  - 2007
  - 2005
  - 2003
  - 2001
  - 1999
  - 1997
  - 1995
  - 1993

About NAEP Questions Tool | Copyright Policy | Accessible Version | System Requirements
Customized Test Options
Revised Test Options
Revised Test Options
Drag-n-Drop View

To create a customized list of questions, review each thumbnail and either drag and drop your selection into the "Selected Questions" box or click on "Add Question". Click the View List tab to see your list. To add more questions, click on Search Options. To view text and details for the highlighted item, click "Show Question".

Search Results (12):
Subject: Mathematics, Grade: 8, Years: 2013
Content Classifications: Number properties and operations, Measurement, Geometry, Data analysis and Probability, Algebra, Low, Moderate, High, Types: SCR, ECR, Difficulty Levels: Easy, Medium, Hard

Determine complete sample space

Grade: 8  Medium
Data analysis, and probability

SCR: [Blank]

Selected Questions (0)  clear

Add All Questions  Add Question

Show Question  Pages:  1  Question ID: 2013-03-21-M1M199E1
Drag-n-Drop View
A nickel, a dime, and a quarter are flipped at the same time. Each coin can land either heads up (H) or tails up (T). List all the different possible outcomes for this event in the chart below. The list has been started for you.

<table>
<thead>
<tr>
<th>Nickel</th>
<th>Dime</th>
<th>Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td>H</td>
<td>H</td>
<td>H</td>
</tr>
<tr>
<td>H</td>
<td>H</td>
<td>T</td>
</tr>
</tbody>
</table>
**Score and Description**

**Correct**
Correct response, with no repeated or duplicated responses in list

**Partial 1**
All 6 correct outcomes (in addition to the 2 that were given) with 1 or more duplicated responses in list

**Partial 2**
4 - 5 different correct outcomes (in addition to the 2 that were given) with or without duplicated responses in list

**Incorrect**
Incorrect response
Performance Data

Percentages for mathematics, grade 8 by jurisdiction, year and Determine complete sample space (Expand)

[M1499E1]: 2013

2013, National

<table>
<thead>
<tr>
<th>Category</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incorrect</td>
<td></td>
</tr>
<tr>
<td>Partial 2</td>
<td></td>
</tr>
<tr>
<td>Partial 1</td>
<td></td>
</tr>
<tr>
<td>Correct</td>
<td></td>
</tr>
<tr>
<td>Omitted</td>
<td></td>
</tr>
<tr>
<td>Off task #</td>
<td></td>
</tr>
</tbody>
</table>
Dragging the Items

Search Results (12):
Subject: Mathematics, Grade: 8, Years: 2013
Content Classifications: Number properties and operations, Measurement, Geometry, Data analysis and Probability, Algebra, Low, Moderate, High, Types: SCR, ECR, Difficulty Levels: Easy, Medium, Hard

Read graph to solve a problem

Grade: 8
Hard
Algebra

Selected Questions (1)
Add All Questions
Add Question
Saving the List

To create a customized list of questions, review each thumbnail and either drag and drop your selection into the "Selected Questions" box or click on "Add Question". Click the View List tab to see your list. To add more questions, click on Search Options. To view text and details for the highlighted item, click "Show Question".
Saving BEFORE signing in

Copy and save this link as a bookmark in order to access the current item list at any time.
Enter this link in your browser:

Or enter an email address for the bookmark link to be sent to:

Email Address:
djmohr@usi.edu

Close  Email Bookmark

Note: Sign in with a User ID to save and manage multiple lists.
Email Received

Item List Bookmark

nqt@nces.ed.gov
Sun 10/26/2014 9:02 AM

To: Mohr, Doris;

Click here for bookmark.
Saving AFTER signing in
Determining complete sample space:

Grade 8 - Medium

Data analysis and probability

SCR: *******

Selected Questions (12)  clear

Add All Questions

Add Question

Show Question  Pages: 1  Question ID: 2013-3MB #2 M1499E1
Download the Questions

Select options to download and select format. All files will be provided in the same format. User must be signed in to access saved lists, compiled test results and student rosters.
Selecting a Pre-formatted Test
NAEP Question Tool

NAEP Questions Tool

Search NAEP Questions
- Search hundreds of questions by grade, year, and content area, and
- See actual student responses from NAEP assessments.

Try NAEP Questions
- Test yourself with actual NAEP questions.

Create Tests
- Select a preformatted test
- Make a customized test
- Use one of our pre-formatted assessments, or make your own customized assessment for your classroom.
- Create an account and you'll be able to make a student roster and save your assessments for use throughout the school year.

http://nces.ed.gov/nationsreportcard/nqt
Creating a Test

http://nces.ed.gov/nationsreportcard/nqt
Preformatted Test Options
Preformatted Test Options
Preformatted Test Options

Choose a subject and grade to select a preformatted list of questions.

- Reading
- Mathematics
- Writing
- Science
- Civics
- Geography
- Arts
- U.S. History
- LTT Reading
- LTT Mathematics
- Economics

Number of Questions: 12
Approximate Time: 12 Minutes
Preformatted Test Results

To view text and details for the highlighted item, click "Show Question". To print HTML, PDF, or Word, select "Download."
Viewing Pre-Selected Items

Emily needs to measure the length of a table. She has a dollar bill that is about 6 inches long. It fits, end to end, 10 times along the length of the table. Which is the best estimate for the length of the table?

A. 5 feet  
B. 6 feet  
C. 10 feet  
D. 12 feet

Question ID: 2009-4M10 #14 M138501
### Performance Data

Percentages for mathematics, grade 4 by jurisdiction, year and Estimate length of object by indirect measurement

[M138501]: 2009

2009, National

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>33</td>
</tr>
<tr>
<td>B</td>
<td>24</td>
</tr>
<tr>
<td>C</td>
<td>21</td>
</tr>
<tr>
<td>D</td>
<td>20</td>
</tr>
<tr>
<td>Omitted</td>
<td>2</td>
</tr>
</tbody>
</table>

Percent of responses by grade.
### View List

**Mathematics, Grade 4 - Unsaved**

<table>
<thead>
<tr>
<th>#</th>
<th>Actions</th>
<th>Question ID</th>
<th>Description</th>
<th>Grade</th>
<th>Year</th>
<th>Block</th>
<th>Difficulty</th>
<th>Type</th>
<th>Content Classification</th>
<th>Online</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td></td>
<td>2006-4M10 #7</td>
<td>Identify the value of a point on a number line</td>
<td>4</td>
<td>2009</td>
<td>4M10</td>
<td>Medium</td>
<td>MC</td>
<td>Number properties and operations</td>
<td>Yes</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>2006-4M10 #8</td>
<td>Determine missing shapes in a pattern</td>
<td>4</td>
<td>2009</td>
<td>4M10</td>
<td>Easy</td>
<td>MC</td>
<td>Algebra</td>
<td>Yes</td>
</tr>
<tr>
<td>9</td>
<td></td>
<td>2006-4M10 #9</td>
<td>Identify figure with greatest area on a grid</td>
<td>4</td>
<td>2009</td>
<td>4M10</td>
<td>Easy</td>
<td>MC</td>
<td>Measurement</td>
<td>Yes</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>2006-4M10 #12</td>
<td>Identify shape of shaded region</td>
<td>4</td>
<td>2009</td>
<td>4M10</td>
<td>Easy</td>
<td>MC</td>
<td>Geometry</td>
<td>Yes</td>
</tr>
<tr>
<td>11</td>
<td></td>
<td>2006-4M10 #14</td>
<td>Divide a three-digit number by a one-digit number</td>
<td>4</td>
<td>2009</td>
<td>4M10</td>
<td>Medium</td>
<td>MC</td>
<td>Number properties and operations</td>
<td>Yes</td>
</tr>
<tr>
<td>12</td>
<td></td>
<td>2006-4M10 #15</td>
<td>Estimate length of object by indirect measurement</td>
<td>4</td>
<td>2009</td>
<td>4M10</td>
<td>Hard</td>
<td>MC</td>
<td>Measurement</td>
<td>Yes</td>
</tr>
</tbody>
</table>
### Actions

**Grid View**

**Drag 'n Drop View**

**View List**

**NQT HOME**

**Mathematics, Grade 4 - Unsaved**

*Use this list as is and select Publish Test Online*

*Delete or rearrange questions*

*View text and details for highlighted question (click “Show Question”)*

**What can I do here?**

- Expand your list by clicking Grid View or Drag 'n Drop
- Start over by clicking New List

---

**Table:**

<table>
<thead>
<tr>
<th>#</th>
<th>Actions</th>
<th>Question ID</th>
<th>Description</th>
<th>Grade</th>
<th>Year</th>
<th>Block</th>
<th>Difficulty</th>
<th>Type</th>
<th>Content Classification</th>
<th>Online</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td></td>
<td>2006-4M10 #7</td>
<td>Identify the value of a point on a number line</td>
<td>4</td>
<td>2009</td>
<td>4M10</td>
<td>Medium</td>
<td>MC</td>
<td>Number properties and operations</td>
<td>Yes</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>2006-4M10 #8</td>
<td>Determine missing shapes in a pattern</td>
<td>4</td>
<td>2009</td>
<td>4M10</td>
<td>Easy</td>
<td>MC</td>
<td>Algebra</td>
<td>Yes</td>
</tr>
<tr>
<td>9</td>
<td></td>
<td>2006-4M10 #9</td>
<td>Identify figure with greatest area on a grid</td>
<td>4</td>
<td>2009</td>
<td>4M10</td>
<td>Easy</td>
<td>MC</td>
<td>Measurement</td>
<td>Yes</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>2006-4M10 #12</td>
<td>Divide a three-digit number by a one-digit number</td>
<td>4</td>
<td>2009</td>
<td>4M10</td>
<td>Medium</td>
<td>MC</td>
<td>Number properties and operations</td>
<td>Yes</td>
</tr>
<tr>
<td>11</td>
<td></td>
<td>2006-4M10 #14</td>
<td>Estimate length of object by indirect measurement</td>
<td>4</td>
<td>2009</td>
<td>4M10</td>
<td>Hard</td>
<td>MC</td>
<td>Measurement</td>
<td>Yes</td>
</tr>
</tbody>
</table>

---

*Show Question*

---

**About NAEP Questions Tool**

**Copyright Policy**

**Accessible Version**

**System Requirements**
### Mathematics, Grade 4 - Unsaved

**What can I do here?**
- Use this list as is and select Publish Test Online
- Delete or rearrange questions
- View text and details for highlighted question (click “Show Question”)

#### Grid View

<table>
<thead>
<tr>
<th>#</th>
<th>Actions</th>
<th>Question ID</th>
<th>Description</th>
<th>Grade</th>
<th>Year</th>
<th>Block</th>
<th>Difficulty</th>
<th>Type</th>
<th>Content Classification</th>
<th>Online</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td></td>
<td>2006-4M10 #7</td>
<td>Identify the value of a point on a number line</td>
<td>4</td>
<td>2009</td>
<td>4M10</td>
<td>Medium</td>
<td>MC</td>
<td>Number properties and operations</td>
<td>Yes</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>2006-4M10 #8</td>
<td>Determine missing shapes in a pattern</td>
<td>4</td>
<td>2009</td>
<td>4M10</td>
<td>Easy</td>
<td>MC</td>
<td>Algebra</td>
<td>Yes</td>
</tr>
<tr>
<td>9</td>
<td></td>
<td>2006-4M10 #9</td>
<td>Identify figure with greatest area on a grid</td>
<td>4</td>
<td>2009</td>
<td>4M10</td>
<td>Easy</td>
<td>MC</td>
<td>Measurement</td>
<td>Yes</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>2006-4M10 #10</td>
<td>Identify shape of shaded region</td>
<td>4</td>
<td>2009</td>
<td>4M10</td>
<td>Easy</td>
<td>MC</td>
<td>Geometry</td>
<td>Yes</td>
</tr>
<tr>
<td>11</td>
<td></td>
<td>2006-4M10 #12</td>
<td>Divide a three-digit number by a one-digit number</td>
<td>4</td>
<td>2009</td>
<td>4M10</td>
<td>Medium</td>
<td>MC</td>
<td>Number properties and operations</td>
<td>Yes</td>
</tr>
<tr>
<td>12</td>
<td></td>
<td>2006-4M10 #14</td>
<td>Estimate length of object by indirect measurement</td>
<td>4</td>
<td>2009</td>
<td>4M10</td>
<td>Hard</td>
<td>MC</td>
<td>Measurement</td>
<td>Yes</td>
</tr>
</tbody>
</table>

[Show Question]

[Preview]
Mathematics, Grade 4

Questions: 12
Estimated Completion Time: 12 Minutes

1. 
301
-75

   A. 226
   B. 235
   C. 236
   D. 374

Question ID: 2009-4M10-1_M137201
Save List before Publishing

### Mathematics, Grade 4 - Unsaved

<table>
<thead>
<tr>
<th>#</th>
<th>Actions</th>
<th>Question ID</th>
<th>Description</th>
<th>Grade</th>
<th>Year</th>
<th>Block</th>
<th>Difficulty</th>
<th>Type</th>
<th>Content Classification</th>
<th>Online</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td></td>
<td>2006-4M10 #7</td>
<td>Identify the value of a point on a number line</td>
<td>4</td>
<td>2000</td>
<td>4M10</td>
<td>Medium</td>
<td>MC</td>
<td>Number properties and operations</td>
<td>Yes</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>2006-4M10 #6</td>
<td>Determine missing shapes in a pattern</td>
<td>4</td>
<td>2000</td>
<td>4M10</td>
<td>Easy</td>
<td>MC</td>
<td>Algebra</td>
<td>Yes</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>2006-4M10 #5</td>
<td>Identify figure with greatest area on a grid</td>
<td>4</td>
<td>2000</td>
<td>4M10</td>
<td>Easy</td>
<td>MC</td>
<td>Measurement</td>
<td>Yes</td>
</tr>
<tr>
<td>9</td>
<td></td>
<td>2006-4M10 #10</td>
<td>Identify shape of shaded region</td>
<td>4</td>
<td>2009</td>
<td>4M10</td>
<td>Easy</td>
<td>MC</td>
<td>Geometry</td>
<td>Yes</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>2006-4M10 #12</td>
<td>Divide a three-digit number by a one-digit number</td>
<td>4</td>
<td>2000</td>
<td>4M10</td>
<td>Medium</td>
<td>MC</td>
<td>Number properties and operations</td>
<td>Yes</td>
</tr>
<tr>
<td>11</td>
<td></td>
<td>2006-4M10 #14</td>
<td>Estimate length of object by indirect measurement</td>
<td>4</td>
<td>2009</td>
<td>4M10</td>
<td>Hard</td>
<td>MC</td>
<td>Measurement</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Save List

Save

Saving list as a New Item List will create a new list with the name you have entered. See all Saved Lists under your account.

New Item List:
Mathematics, Grade 4

Save  Close
Publish the Items Online

<table>
<thead>
<tr>
<th>#</th>
<th>Actions</th>
<th>Question ID</th>
<th>Description</th>
<th>Grade</th>
<th>Year</th>
<th>Block</th>
<th>Difficulty</th>
<th>Type</th>
<th>Content Classification</th>
<th>Online</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td></td>
<td>2000-4M10 #7</td>
<td>Identify the value of a point on a number line</td>
<td>4</td>
<td>2000</td>
<td>4M10</td>
<td>Medium</td>
<td>MC</td>
<td>Number properties and operations</td>
<td>Yes</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>2000-4M10 #8</td>
<td>Determine missing shapes in a pattern</td>
<td>4</td>
<td>2002</td>
<td>4M10</td>
<td>Easy</td>
<td>MC</td>
<td>Algebra</td>
<td>Yes</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>2000-4M10 #9</td>
<td>Identify figure with greatest area on a grid</td>
<td>4</td>
<td>2000</td>
<td>4M10</td>
<td>Easy</td>
<td>MC</td>
<td>Measurement</td>
<td>Yes</td>
</tr>
<tr>
<td>9</td>
<td></td>
<td>2000-4M10 #10</td>
<td>Identify shape of shaded region</td>
<td>4</td>
<td>2009</td>
<td>4M10</td>
<td>Easy</td>
<td>MC</td>
<td>Geometry</td>
<td>Yes</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>2000-4M10 #11</td>
<td>Divide a three-digit number by a one-digit number</td>
<td>4</td>
<td>2000</td>
<td>4M10</td>
<td>Medium</td>
<td>MC</td>
<td>Number properties and operations</td>
<td>Yes</td>
</tr>
<tr>
<td>11</td>
<td></td>
<td>2000-4M10 #12</td>
<td>Estimate length of object by indirect measurement</td>
<td>4</td>
<td>2009</td>
<td>4M10</td>
<td>Hard</td>
<td>MC</td>
<td>Measurement</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Publish the Items

Mathematics, Grade 4 - Saved  Save List  Save List As New List

What can I do here?
- Use this list as is and select Publish Test Online
- Expand your list by clicking Grid View or Drag 'n Drop

Publish Test

Provide the following information for online administration of a test comprised of the selected item list. Publish test and download test material.

Item List: Mathematics, Grade 4  Questions: 12  Estimated Completion Time: 12 Minutes

*Required fields

Test Name:
NAEP Questions - MC - G4

*Roster: You must either select an existing roster or indicate how many total test-takers you want to publish your test for.
--Unassigned--  Total Test Takers: 8

Due Date: Test will not expire if no due date is selected

Comparison Results:
National public

Test Format:
- Allow test taker to see results after test completion
- Hide all test results from test taker
- Allow test taker to retake test

Email Options:
- Notify me when each test is complete
- Notify me when all tests are complete
- Do not notify me

[Publish Test]  [Cancel]
Test Tickets

Go to http://nces.ed.gov/NationsReportCard/nqt/Link/Test/

Test ID: 4YF-875
Enter this TestID on the test entry page.

Test ticket for student: 3QM-563
Test: NAEP - MC - G4
12 Questions
12 Minutes
Due Date: Available now

Go to http://nces.ed.gov/NationsReportCard/nqt/Link/Test/

Test ticket for student: IQX-936
Test: NAEP - MC - G4
Taking the test...

[Image of the NAEP Questions Tool website]

http://nces.ed.gov/nationsreportcard/nqt
Taking the test....
Test is finished!

<table>
<thead>
<tr>
<th>Test</th>
<th>NAEP - MC - G4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td>4m 13s</td>
</tr>
<tr>
<td>QM</td>
<td>563</td>
</tr>
<tr>
<td>MC</td>
<td></td>
</tr>
<tr>
<td>G4</td>
<td></td>
</tr>
<tr>
<td>Correct Answers:</td>
<td>12 out of 12 = 100%</td>
</tr>
</tbody>
</table>

Test Results

Copyright Policy
Account Options
Account Options
View Saved Lists
## Expanded View of Lists

Below is an expanded view of lists in a software interface. The interface allows users to expand item lists to view administered tests, rosters, and results. Users can also view or delete lists, publish online tests, and download all reports related to each selected list.

### Saved Lists

<table>
<thead>
<tr>
<th>Actions</th>
<th>List Name</th>
<th>Number of Items</th>
<th>Date Created</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mathematics, Grade 8</td>
<td>12</td>
<td>10/14/2014</td>
</tr>
<tr>
<td></td>
<td>Administered Test Admin Roster</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>This list has no test administrations.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mathematics, Grade 4</td>
<td>12</td>
<td>10/14/2014</td>
</tr>
<tr>
<td></td>
<td>Administered Test Admin Roster</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>NAEP Questions - MC - G4</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>NAEP Questions - MC - G4-Roster</td>
<td></td>
<td>Incomplete</td>
</tr>
</tbody>
</table>

The highlighted list is NAEP Questions - MC - G4-Roster, which has 8 items and is marked as incomplete (0).
Email Notification

Test Name: NAEP - MC - G4

As of 10-22-2014 all students have completed their tests.
Test Results – Comparison Report

<table>
<thead>
<tr>
<th>Item #</th>
<th>Question Description</th>
<th>NAEP Percent Correct</th>
<th>Percent Correct</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Subtract two-digit number from three-digit number</td>
<td>73</td>
<td>100</td>
</tr>
<tr>
<td>2</td>
<td>Find value of unknown in number sentences</td>
<td>93</td>
<td>100</td>
</tr>
<tr>
<td>3</td>
<td>Solve a story problem involving quarts and cups</td>
<td>88</td>
<td>89</td>
</tr>
<tr>
<td>4</td>
<td>Determine probability of a particular event</td>
<td>68</td>
<td>89</td>
</tr>
<tr>
<td>5</td>
<td>Estimate a distance based on time</td>
<td>75</td>
<td>80</td>
</tr>
<tr>
<td>6</td>
<td>Identify the value of a point on a number line</td>
<td>50</td>
<td>100</td>
</tr>
<tr>
<td>7</td>
<td>Determine missing shapes in a pattern</td>
<td>88</td>
<td>86</td>
</tr>
<tr>
<td>8</td>
<td>Identify figure with greatest area on a grid</td>
<td>86</td>
<td>100</td>
</tr>
<tr>
<td>9</td>
<td>Identify shape of shaded region</td>
<td>81</td>
<td>89</td>
</tr>
<tr>
<td>10</td>
<td>Divide a three-digit number by a one-digit number</td>
<td>68</td>
<td>78</td>
</tr>
<tr>
<td>11</td>
<td>Estimate length of object by indirect measurement</td>
<td>38</td>
<td>78</td>
</tr>
<tr>
<td>12</td>
<td>Identify fraction closest to given value</td>
<td>28</td>
<td>89</td>
</tr>
</tbody>
</table>

Total: 81

NOTE: Detail may not sum to totals because of rounding. Some apparent differences between estimates may not be statistically significant.
### Test Results – Student Summary Report

**Test Results**

Select options below to choose report contents. Select report to view, print or download results. Only Item lists that have test administrations will appear in Item List dropdown. Only test administrations that have test results will appear in the Test Admins dropdown.

- **Item List:** Mathematics, Grade 4
- **Test Administration:** NAEP - MC - G4

**Select Report:** Student Summary

---

**Summary Report**

- **Administration:** NAEP - MC - G4
- **Roster:** 393 Students
- **Due Date:** No due date

<table>
<thead>
<tr>
<th>Test Taker</th>
<th># of Attempts</th>
<th>Date Completed</th>
<th>Percent Correct</th>
</tr>
</thead>
<tbody>
<tr>
<td>3OM-503</td>
<td>1</td>
<td>Oct 14 2014 5:02PM</td>
<td>100</td>
</tr>
<tr>
<td>IQX-936</td>
<td>1</td>
<td>Oct 19 2014 8:58PM</td>
<td>75</td>
</tr>
<tr>
<td>MAS-870</td>
<td>1</td>
<td>Oct 15 2014 7:48PM</td>
<td>100</td>
</tr>
<tr>
<td>FYF-407</td>
<td>1</td>
<td>Oct 18 2014 12:48PM</td>
<td>100</td>
</tr>
<tr>
<td>RAV-314</td>
<td>1</td>
<td>Oct 15 2014 9:28PM</td>
<td>92</td>
</tr>
<tr>
<td>SJ6-953</td>
<td>1</td>
<td>Oct 22 2014 12:01PM</td>
<td>87</td>
</tr>
<tr>
<td>TH7-302</td>
<td>1</td>
<td>Oct 17 2014 5:43PM</td>
<td>83</td>
</tr>
<tr>
<td>TLL-938</td>
<td>1</td>
<td>Oct 16 2014 1:14PM</td>
<td>100</td>
</tr>
<tr>
<td>ZBO-899</td>
<td>1</td>
<td>Oct 20 2014 7:58AM</td>
<td>100</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td><strong>91</strong></td>
</tr>
</tbody>
</table>
Test Results – Student Item Report

<table>
<thead>
<tr>
<th>Item #</th>
<th>Question Description</th>
<th>Test Taker Response</th>
<th>Correct Response</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Subtract two-digit number from three-digit number</td>
<td>A</td>
<td>A</td>
<td>✔</td>
</tr>
<tr>
<td>2</td>
<td>Find value of unknown in number sentences</td>
<td>B</td>
<td>B</td>
<td>✔</td>
</tr>
<tr>
<td>3</td>
<td>Solve a story problem involving quarts and cups</td>
<td>B</td>
<td>D</td>
<td>✖</td>
</tr>
<tr>
<td>4</td>
<td>Determine probability of a particular event</td>
<td>D</td>
<td>D</td>
<td>✔</td>
</tr>
<tr>
<td>5</td>
<td>Estimate a distance based on time</td>
<td>C</td>
<td>B</td>
<td>✔</td>
</tr>
<tr>
<td>6</td>
<td>Identify the value of a point on a number line</td>
<td>D</td>
<td>D</td>
<td>✔</td>
</tr>
<tr>
<td>7</td>
<td>Determine missing shapes in a pattern</td>
<td>C</td>
<td>C</td>
<td>✔</td>
</tr>
<tr>
<td>8</td>
<td>Identify figure with greatest area on a grid</td>
<td>B</td>
<td>B</td>
<td>✔</td>
</tr>
<tr>
<td>9</td>
<td>Identify shape of shaded region</td>
<td>B</td>
<td>B</td>
<td>✔</td>
</tr>
<tr>
<td>10</td>
<td>Divide a three-digit number by a one-digit number</td>
<td>B</td>
<td>B</td>
<td>✔</td>
</tr>
<tr>
<td>11</td>
<td>Estimate length of object by indirect measurement</td>
<td>A</td>
<td>A</td>
<td>✔</td>
</tr>
<tr>
<td>12</td>
<td>Identify fraction closest to given value</td>
<td>B</td>
<td>A</td>
<td>✖</td>
</tr>
</tbody>
</table>
Manage Rosters

Add a new roster or select student ID to view individual student results.

Add New Roster

<table>
<thead>
<tr>
<th>Actions</th>
<th>Roster Name</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M393 Students</td>
</tr>
</tbody>
</table>
Manage Rosters

Add a new roster or select student ID to view individual student results.

<table>
<thead>
<tr>
<th>Actions</th>
<th>Roster Name</th>
<th>Student ID</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M393 Students</td>
<td>THZ-202</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SJ6-953</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TLL-668</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PYF-497</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Z69-669</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IQX-936</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3QM-563</td>
</tr>
<tr>
<td></td>
<td></td>
<td>R4V-314</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MAS-870</td>
</tr>
</tbody>
</table>
Thank you!

These slides and additional publications from the *What Mathematics Do Students Know Project* are available at http://ceep.indiana.edu/ImplicationsFromNAEP/ (or just Google “What Mathematics Do Students Know”)

This research is supported by the REESE Program of the National Science Foundation (grant number DRL-1008438). Opinions, findings, conclusions, and recommendations are those of the presenters and do not necessarily reflect the views of the National Science Foundation.
Tips for a great conference!

Rate this presentation on the conference app
www.nctm.org/confapp

Download available presentation handouts from the Online Planner!
www.nctm.org/planner

Join the conversation! Tweet us using the hashtag #NCTMIndy