Ohio’s State Tests

PRACTICE TEST ANSWER KEY & SCORING GUIDELINES

GRADE 5
MATHEMATICS
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## Grade 5 Math Practice Test
### Content Summary and Answer Key

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<th>Question No.</th>
<th>Item Type</th>
<th>Content Cluster</th>
<th>Content Standard</th>
<th>Answer Key</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Graphic Response</td>
<td>Represent and interpret data.</td>
<td>Display and interpret data in graphs (picture graphs, bar graphs, and line plots) to solve problems using numbers and operations for this grade, e.g., including U.S. customary units in fractions $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$, or decimals. (5.MD.2)</td>
<td>---</td>
<td>1 point</td>
</tr>
<tr>
<td>2</td>
<td>Graphic Response</td>
<td>Graph points on the coordinate plane to solve real-world and mathematical problems.</td>
<td>Represent real-world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation. (5.G.2)</td>
<td>---</td>
<td>2 points</td>
</tr>
<tr>
<td>3</td>
<td>Equation Item</td>
<td>Understand the place value system.</td>
<td>Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and $\frac{1}{10}$ of what it represents in the place to its left. (5.NBT.1)</td>
<td>---</td>
<td>1 point</td>
</tr>
<tr>
<td>4</td>
<td>Equation Item</td>
<td>Use equivalent fractions as a strategy to add and subtract fractions. (Fractions need not be simplified.)</td>
<td>Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. For example, recognize an incorrect result $\frac{2}{5} + \frac{1}{2} = \frac{3}{7}$, by observing that $\frac{3}{7} &lt; \frac{1}{2}$. (5.NF.2)</td>
<td>---</td>
<td>1 point</td>
</tr>
<tr>
<td>Question No.</td>
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<td>Content Standard</td>
<td>Answer Key</td>
<td>Points</td>
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<td>-------------</td>
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</tr>
<tr>
<td>5</td>
<td>Multiple Choice</td>
<td>Perform operations with multi-digit whole numbers and with decimals to hundredths.</td>
<td>Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. (5.NBT.6)</td>
<td>D</td>
<td>1 point</td>
</tr>
<tr>
<td>6</td>
<td>Equation Item</td>
<td>Graph points on the coordinate plane to solve real-world and mathematical problems.</td>
<td>Represent real-world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation. (5.G.2)</td>
<td>---</td>
<td>1 point</td>
</tr>
<tr>
<td>7</td>
<td>Multi-Select Item</td>
<td>Apply and extend previous understandings of multiplication and division to multiply and divide fractions. (Fractions need not be simplified.)</td>
<td>Interpret multiplication as scaling (resizing). a. Compare the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication. (5.NF.5a)</td>
<td>A, C</td>
<td>1 point</td>
</tr>
<tr>
<td>8</td>
<td>Equation Item</td>
<td>Perform operations with multi-digit whole numbers and with decimals to hundredths.</td>
<td>Fluently multiply multi-digit whole numbers using a standard algorithm. (5.NBT.5)</td>
<td>---</td>
<td>1 point</td>
</tr>
<tr>
<td>Question No.</td>
<td>Item Type</td>
<td>Content Cluster</td>
<td>Content Standard</td>
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<td>Points</td>
</tr>
<tr>
<td>-------------</td>
<td>-------------------</td>
<td>----------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------</td>
<td>-------------</td>
<td>--------</td>
</tr>
<tr>
<td>9</td>
<td>Multi-Select</td>
<td>Apply and extend previous understandings of multiplication and division to</td>
<td>Interpret multiplication as scaling (resizing).</td>
<td>C, E</td>
<td>1 point</td>
</tr>
<tr>
<td></td>
<td>Response</td>
<td>multiply and divide fractions. (Fractions need not be simplified.)</td>
<td>a. Compare the size of a product to the size of one factor on the basis of the</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>size of the other factor, without performing the indicated multiplication.</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>(5.NF.5a)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Equation Item</td>
<td>Understand the place value system.</td>
<td>Read, write, and compare decimals to thousandths.</td>
<td>---</td>
<td>1 point</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>a. Read and write decimals to thousandths using base-ten numerals, number names,</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>and expanded form, e.g., 347.392 = 3 × 100 + 4 × 10 + 7 × 1 + 3 × 1/10 + 9 × 1/100 + 2 × 1/1000.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(5.NBT.3a)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Equation Item</td>
<td>Apply and extend previous understandings of multiplication to multiply and</td>
<td>Apply and extend previous understandings of multiplication to multiply a fraction</td>
<td>---</td>
<td>2 points</td>
</tr>
<tr>
<td></td>
<td></td>
<td>divide multiplication and division to multiply and divide fractions. (Fractions</td>
<td>or whole number by a fraction.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>need not be simplified.)</td>
<td>a. Interpret the product ( \frac{a}{b} \times q ) as a parts of a partition</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>of ( q ) into ( b ) equal parts; equivalently, as the result of a sequence</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>of operations ( a \times q \div b ). For example, use a visual fraction model</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>to show ( \frac{2}{3} \times 4 = \frac{8}{3} ), and create a story context for</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>this equation. Do the same with ( \frac{2}{3} \times \frac{4}{5} = \frac{8}{15} ). (In</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>general, ( \frac{a}{b} \times \frac{c}{d} = \frac{ac}{bd} ).)</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>(5.NF.4a)</td>
<td></td>
<td></td>
</tr>
</tbody>
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<tbody>
<tr>
<td>12</td>
<td>Multiple Choice</td>
<td>Write and interpret numerical expressions.</td>
<td>Use parentheses in numerical expressions, and evaluate expressions with this symbol. Formal use of algebraic order of operations is not necessary. (5.OA.1)</td>
<td>C</td>
<td>1 point</td>
</tr>
<tr>
<td>13</td>
<td>Graphic Response</td>
<td>Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.</td>
<td>Relate volume to the operations of multiplication and addition and solve real-world and mathematical problems involving volume. b. Apply the formulas $V = l \times w \times h$ and $V = B \times h$ for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real-world and mathematical problems. (5.MD.5)</td>
<td>---</td>
<td>1 point</td>
</tr>
<tr>
<td>14</td>
<td>Multi-Select Item</td>
<td>Understand the place value system.</td>
<td>Use place value understanding to round decimals to any place, millions through hundredths. (5.NBT.4)</td>
<td>A, E</td>
<td>1 point</td>
</tr>
<tr>
<td>15</td>
<td>Multiple Choice</td>
<td>Apply and extend previous understandings of multiplication and division to multiply and divide fractions. (Fractions need not be simplified.)</td>
<td>Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction. b. Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas. (5.NF.4b)</td>
<td>D</td>
<td>1 point</td>
</tr>
</tbody>
</table>
# Grade 5 Math Practice Test

## Content Summary and Answer Key

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<tbody>
<tr>
<td>16</td>
<td>Table Item</td>
<td>Perform operations with multi-digit whole numbers and with decimals to hundredths.</td>
<td>Solve real-world problems by adding, subtracting, multiplying, and dividing decimals using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction, or multiplication and division; relate the strategy to a written method and explain the reasoning used. a. Add and subtract decimals, including decimals with whole numbers, (whole numbers through the hundreds place and decimals through the hundredths place). (5.NBT.7)</td>
<td>---</td>
<td>1 point</td>
</tr>
<tr>
<td>17</td>
<td>Equation Item</td>
<td>Use equivalent fractions as a strategy to add and subtract fractions. (Fractions need not be simplified.)</td>
<td>Add and subtract fractions with unlike denominators (including mixed numbers and fractions greater than 1) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. For example, use visual models and properties of operations to show $\frac{2}{3} + \frac{5}{4} = \frac{8}{12} + \frac{15}{12} = \frac{23}{12}$. In general, $\frac{a}{b} + \frac{c}{d} = \frac{ad + bc}{bd}$. (5.NF.1)</td>
<td>---</td>
<td>1 point</td>
</tr>
<tr>
<td>18</td>
<td>Equation Item</td>
<td>Understand the place value system.</td>
<td>Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10. (5.NBT.2)</td>
<td>---</td>
<td>1 point</td>
</tr>
<tr>
<td>Question No.</td>
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<td>------------</td>
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</tr>
<tr>
<td>19</td>
<td>Multiple Choice</td>
<td>Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.</td>
<td>Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units. (5.MD.4)</td>
<td>B</td>
<td>1 point</td>
</tr>
<tr>
<td>20</td>
<td>Equation Item</td>
<td>Apply and extend previous understandings of multiplication and division to multiply and divide fractions. (Fractions need not be simplified.)</td>
<td>Solve real-world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem. (5.NF.6)</td>
<td>---</td>
<td>1 point</td>
</tr>
<tr>
<td>21</td>
<td>Equation Item</td>
<td>Apply and extend previous understandings of multiplication and division to multiply and divide fractions. (Fractions need not be simplified.)</td>
<td>Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions. In general, students able to multiply fractions can develop strategies to divide fractions, by reasoning about the relationship between multiplication and division, but division of a fraction by a fraction is not a requirement at this grade. b. Interpret division of a whole number by a unit fraction, and compute such quotients. For example, create a story context for $4 \div \left(\frac{1}{8}\right)$, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that $4 \div \left(\frac{1}{8}\right) = 20$ because $20 \times \left(\frac{1}{8}\right) = 4$. (5.NF.7b)</td>
<td>---</td>
<td>1 point</td>
</tr>
<tr>
<td>Question No.</td>
<td>Item Type</td>
<td>Content Cluster</td>
<td>Content Standard</td>
<td>Answer Key</td>
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<tr>
<td>-------------</td>
<td>-------------</td>
<td>--------------------------------------</td>
<td>----------------------------------------------------------------------------------</td>
<td>------------</td>
<td>--------</td>
</tr>
<tr>
<td>22</td>
<td>Equation Item</td>
<td>Write and interpret numerical expressions.</td>
<td>Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. For example, express the calculation “add 8 and 7, then multiply by 2” as 2 × (8 + 7). Recognize that 3 × (18,932 + 921) is three times as large as 18,932 + 921, without having to calculate the indicated sum or product. (5.OA.2)</td>
<td>---</td>
<td>1 point</td>
</tr>
<tr>
<td>23</td>
<td>Gap Match Item</td>
<td>Understand the place value system.</td>
<td>Read, write, and compare decimals to thousandths. b. Compare two decimals to thousandths based on meanings of the digits in each place, using &gt;, =, and &lt; symbols to record the results of comparisons. (5.NBT.3b)</td>
<td>---</td>
<td>1 point</td>
</tr>
<tr>
<td>24</td>
<td>Inline Choice Item</td>
<td>Understand the place value system.</td>
<td>Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10. (5.NBT.2)</td>
<td>---</td>
<td>1 point</td>
</tr>
</tbody>
</table>
Grade 5
Math
Practice Test

Question 1

Question and Scoring Guidelines
Question 1

A baker uses a total of 10 cups of sugar for 7 different recipes. The difference between the greatest amount of sugar and least amount of sugar used in a recipe is $\frac{3}{4}$ cup.

Select boxes above the number line to create a line plot of the cups of sugar the baker could possibly use in each recipe.

Points Possible: 1

Content Cluster: Represent and interpret data.

Content Standard: Display and interpret data in graphs (picture graphs, bar graphs, and line plots) to solve problems using numbers and operations for this grade, e.g., including U.S. customary units in fractions $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$, or decimals. (5.MD.2)
Scoring Guidelines

Exemplar Response

Other Correct Responses

- Any 7 X’s plotted with a sum of 10 and a difference in the maximum and minimum amounts of sugar of $\frac{3}{4}$ cup

For this item, a full-credit response includes:

- A correct line plot (1 point).
Grade 5
Math
Practice Test

Question 1

Sample Responses
Sample Response: 1 point

A baker uses a total of 10 cups of sugar for 7 different recipes. The difference between the greatest amount of sugar and least amount of sugar used in a recipe is $\frac{3}{4}$ cup.

Select boxes above the number line to create a line plot of the cups of sugar the baker could possibly use in each recipe.

Notes on Scoring

This response earns full credit (1 point) because the student correctly identified a way for 10 cups to be used in 7 different recipes where the difference between the greatest and least amount of sugar is $\frac{3}{4}$ of a cup.

- The student may have found the answer using addition and multiplication of fractions and mixed numbers to find the amount of sugar in the 7 different recipes.

<table>
<thead>
<tr>
<th>Recipe Number</th>
<th>Amount</th>
<th>Cumulative Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 and 2</td>
<td>$1\frac{1}{4}$ cups + $1\frac{3}{4}$ cups = 3 cups</td>
<td>3 cups</td>
</tr>
<tr>
<td>3 and 4</td>
<td>$1\frac{1}{4}$ cups + $1\frac{3}{4}$ cups = 3 cups</td>
<td>6 cups</td>
</tr>
<tr>
<td>5 and 6</td>
<td>$2 \times 1\frac{1}{2}$ cups = 3 cups</td>
<td>9 cups</td>
</tr>
<tr>
<td>7</td>
<td>$1 \times 1$ cup = 1 cup</td>
<td>10 cups</td>
</tr>
</tbody>
</table>

Difference between the greatest amount and least amount:

$1\frac{3}{4}$ cups - 1 cup = $\frac{3}{4}$ cup of sugar
Sample Response: 1 point

A baker uses a total of 10 cups of sugar for 7 different recipes. The difference between the greatest amount of sugar and least amount of sugar used in a recipe is $\frac{3}{4}$ cup.

Select boxes above the number line to create a line plot of the cups of sugar the baker could possibly use in each recipe.

Notes on Scoring

This response earns full credit (1 point) because the student correctly identified a way for 10 cups to be used in 7 different recipes where the difference between the greatest and least amount of sugar is $\frac{3}{4}$ of a cup.

- The student may have found the answer using addition and multiplication of fractions and mixed numbers to find the amount of sugar in the 7 different recipes.

<table>
<thead>
<tr>
<th>Recipe Numbers</th>
<th>Amount</th>
<th>Cumulative Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 and 2</td>
<td>$\frac{1}{4}$ cups + $\frac{3}{4}$ cups = 3 cups</td>
<td>3 cups</td>
</tr>
<tr>
<td>3 and 4</td>
<td>$2 \times \frac{1}{2}$ cups = 3 cups</td>
<td>6 cups</td>
</tr>
<tr>
<td>5 and 6</td>
<td>$2 \times \frac{1}{2}$ cups = 3 cups</td>
<td>9 cups</td>
</tr>
<tr>
<td>7</td>
<td>$1 \times 1$ cup = 1 cup</td>
<td>10 cups</td>
</tr>
</tbody>
</table>

Difference between the greatest amount and least amount:

$1\frac{3}{4}$ cups – 1 cup = $\frac{3}{4}$ cup of sugar
**Sample Response: 0 points**

A baker uses a total of 10 cups of sugar for 7 different recipes. The difference between the greatest amount of sugar and least amount of sugar used in a recipe is \( \frac{3}{4} \) cup.

Select boxes above the number line to create a line plot of the cups of sugar the baker could possibly use in each recipe.

---

**Notes on Scoring**

This response earns no credit (0 points) because the student did not correctly identify a way for 10 cups to be used in 7 different recipes where the difference between the greatest and least amount of sugar is \( \frac{3}{4} \) of a cup.

- The student may have found the total amount of sugar using addition and multiplication of fractions and mixed numbers to find the correct amount of sugar, but used too many recipes.

<table>
<thead>
<tr>
<th>Recipe Numbers</th>
<th>Amount</th>
<th>Cumulative Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 and 2</td>
<td>( \frac{1}{4} ) cups + ( \frac{3}{4} ) cups = 3 cups</td>
<td>3 cups</td>
</tr>
<tr>
<td>3 and 4</td>
<td>( 2 \times \frac{1}{2} ) cups = 3 cups</td>
<td>6 cups</td>
</tr>
<tr>
<td>5 and 6</td>
<td>( 2 \times 1 ) cup = 2 cups</td>
<td>8 cups</td>
</tr>
<tr>
<td>7 and 8</td>
<td>( 2 \times \frac{1}{2} ) cup = 2 cups</td>
<td>10 cups</td>
</tr>
</tbody>
</table>

Difference between the greatest amount and least amount:

\( \frac{3}{4} \) cups - 1 cup = \( \frac{3}{4} \) cup of sugar
Sample Response: 0 points

A baker uses a total of 10 cups of sugar for 7 different recipes. The difference between the greatest amount of sugar and least amount of sugar used in a recipe is $\frac{3}{4}$ cup.

Select boxes above the number line to create a line plot of the cups of sugar the baker could possibly use in each recipe.

Notes on Scoring

This response earns no credit (0 points) because the student did not correctly identify a way for 10 cups to be used in 7 different recipes where the difference between the greatest and least amount of sugar is $\frac{3}{4}$ of a cup.

- The student may have found the total amount of sugar using addition and multiplication of fractions and mixed numbers to find the correct amount of sugar in the correct number of recipes.
- The student chose values in the line plot where the difference between the greatest and least amount of sugar is not $\frac{3}{4}$ of a cup.

<table>
<thead>
<tr>
<th>Recipe Numbers</th>
<th>Amount</th>
<th>Cumulative Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 and 2</td>
<td>$1\frac{1}{4}$ cups + $1\frac{3}{4}$ cups = 3 cups</td>
<td>3 cups</td>
</tr>
<tr>
<td>3 and 4</td>
<td>$2 \times 1\frac{1}{2}$ cups = 3 cups</td>
<td>6 cups</td>
</tr>
<tr>
<td>5 and 6</td>
<td>$2 \times 1$ cup = 2 cups</td>
<td>8 cups</td>
</tr>
<tr>
<td>7</td>
<td>$1 \times 2$ cups = 2 cups</td>
<td>10 cups</td>
</tr>
</tbody>
</table>

Difference between the greatest amount and least amount:

$2$ cups - $1$ cup $\neq \frac{3}{4}$ cup of sugar
Grade 5
Math
Practice Test

Question 2

Question and Scoring Guidelines
Question 2

Carrie walked from the school to the library. The location of the library is at (6, 3) on the coordinate plane.

- Drag the library to the correct location on the coordinate plane.

Carrie left the school, walked 4 units right and 1 unit down, and arrived at the library.

- Drag the school to the correct location on the coordinate plane.

Points Possible: 2

Content Cluster: Graph points on the coordinate plane to solve real-world and mathematical problems.

Content Standard: Represent real-world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation. (5.G.2)
Scoring Guidelines

Exemplar Response

Other Correct Responses

- N/A

For this item, a full-credit response includes:

- The correct library location (1 point);
  AND
- The correct school location (1 point).
Grade 5 Math Practice Test

Question 2

Sample Responses
Sample Response: 2 points

Carrie walked from the school to the library. The location of the library is at (6, 3) on the coordinate plane.

- Drag the library to the correct location on the coordinate plane.

Carrie left the school, walked 4 units right and 1 unit down, and arrived at the library.

- Drag the school to the correct location on the coordinate plane.

Notes on Scoring

This response earns full credit (2 points) because the student correctly placed the library and the school on the coordinate plane.

- The student correctly placed the library at the point (6, 3) by recognizing that the ordered pair is read as moving from the origin 6 units to the right, 3 units up, and then placing the point at that location.
- The student may have recognized that to locate the school on the coordinate plane meant to follow the directions from the school to the library in reverse.
Sample Response: 1 point

Carrie walked from the school to the library. The location of the library is at (6, 3) on the coordinate plane.

- Drag the library to the correct location on the coordinate plane.

Carrie left the school, walked 4 units right and 1 unit down, and arrived at the library.

- Drag the school to the correct location on the coordinate plane.

Notes on Scoring

This response earns partial credit (1 point) because the student correctly placed the library and incorrectly placed the school on the coordinate plane.

- The student correctly placed the library at the point (6, 3) by recognizing that the ordered pair is read as moving from the origin 6 units to the right, 3 units up, and then placing the point at that location.
- The student may have misinterpreted the directions from the school to the library as directions from the library to the school, moving 4 units to the right and 1 unit down from the library.
Sample Response: 1 point

Carrie walked from the school to the library. The location of the library is at (6, 3) on the coordinate plane.

- Drag the library to the correct location on the coordinate plane.

Carrie left the school, walked 4 units right and 1 unit down, and arrived at the library.

- Drag the school to the correct location on the coordinate plane.

Notes on Scoring

This response earns partial credit (1 point) because the student correctly placed the library and incorrectly placed the school on the coordinate plane.

- The student correctly placed the library at the point (6, 3) by recognizing that the ordered pair is read as moving from the origin 6 units to the right, 3 units up, and then placing the point at that location.
- The student may have incorrectly reversed the directions to go from the library back to the school by moving 4 units up and 1 unit to the left, instead of 4 units to the left and 1 unit up.
Notes on Scoring

This response earns no credit (0 points) because the student incorrectly placed the library and the school on the coordinate plane.

- The student incorrectly placed the school in the library’s location and the library in the school’s location.
Sample Response: 0 points

Carrie walked from the school to the library. The location of the library is at (6, 3) on the coordinate plane.

- Drag the library to the correct location on the coordinate plane.

Carrie left the school, walked 4 units right and 1 unit down, and arrived at the library.

- Drag the school to the correct location on the coordinate plane.

Notes on Scoring

This response earns no credit (0 points) because the student incorrectly placed both the library and the school on the coordinate plane.

- The student may have incorrectly identified the location of the library on the coordinate plane by reversing the x- and y-coordinates on the coordinate plane.
- The student correctly recognized the distance between the library and school but may have incorrectly placed the school based on the reversal of the x- and y-coordinates of the library on the coordinate plane.
Grade 5
Math
Practice Test

Question 3

Question and Scoring Guidelines
Question 3

A school raised $4,589 in a magazine sale. Mr. Simmon’s class raised \( \frac{1}{100} \) of the school’s total.

How much money, in dollars, did Mr. Simmon’s class raise? Enter the number in the box.

\$  

Points Possible: 1

Content Cluster: Understand the place value system.

Content Standard: Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and \( \frac{1}{10} \) of what it represents in the place to its left. (5.NBT.1)

Scoring Guidelines

Exemplar Response

- $45.89

Other Correct Responses

- Any equivalent value

For this item, a full-credit response includes:

- A correct value (1 point).
Grade 5
Math
Practice Test

Question 3

Sample Responses
Sample Response: 1 point

A school raised $4,589 in a magazine sale. Mr. Simmon’s class raised $\frac{1}{100}$ of the school’s total.

How much money, in dollars, did Mr. Simmon’s class raise? Enter the number in the box.

$45.89$

Notes on Scoring

This response earns full credit (1 point) because the student correctly calculated the amount of money, in dollars, that Mr. Simmon’s class raised.

- The student may have created a number pattern to help recognize that a digit in one place represents $\frac{1}{100}$ of what it represents two places to its left. The student may have converted their answer into a decimal because the unit of measure in the question is dollars.

$4589 \times 1 = 4589 \rightarrow 4589 = 4589.00$

$4589 \times \frac{1}{10} = 458.9\ \frac{9}{10} \rightarrow 458.9\ \frac{9}{10} = 458.90$

$4589 \times \frac{1}{100} = 45.8\ \frac{89}{100} \rightarrow 45.8\ \frac{89}{100} = 45.89$
Sample Response: 1 point

A school raised $4,589 in a magazine sale. Mr. Simmon’s class raised $\frac{1}{100}$ of the school’s total. How much money, in dollars, did Mr. Simmon’s class raise? Enter the number in the box.

$\frac{4589}{100}$

Notes on Scoring

This response earns full credit (1 point) because the student correctly calculated the amount of money, in dollars, that Mr. Simmon’s class raised.

- The student may have multiplied $4589$ by $\frac{1}{100}$ and left the answer as an improper fraction.

\[
4589 \times \frac{1}{100} = \frac{4589}{100}
\]

While it may be convenient for students to place fractions in simplest form to help with problem solving, students are not required to place fractions in simplest form. A student can earn credit by identifying an equivalent value to a correct response.
Sample Response: 0 points

A school raised $4,589 in a magazine sale. Mr. Simmon’s class raised \( \frac{1}{100} \) of the school’s total.

How much money, in dollars, did Mr. Simmon’s class raise? Enter the number in the box.

$ \ 458900.00

Notes on Scoring

This response earns no credit (0 points) because the student did not correctly calculate the amount of money, in dollars, Mr. Simmon’s class raised.

- The student may have thought Mr. Simmon’s class raised $4589 and multiplied $4589 by $100.00 to find the school’s total, in dollars.
  $4589 \times 100 = $458900$
Sample Response: 0 points

A school raised $4,589 in a magazine sale. Mr. Simmon’s class raised $\frac{1}{100}$ of the school’s total.

How much money, in dollars, did Mr. Simmon’s class raise? Enter the number in the box.

$\frac{45.89}{100}$

Notes on Scoring

This response earns no credit (0 points) because the student did not correctly calculate the amount of money, in dollars, that Mr. Simmon’s class raised.

- The student may have converted $\frac{1}{100}$ to a decimal and multiplied by $4589$, then multiplied the product by $\frac{1}{100}$

\[
4589 \times 0.01 = 45.89 \times \frac{1}{100} = 45.89 \times \frac{1}{100}
\]

\[
= \frac{45.89}{100}
\]
Grade 5
Math
Practice Test

Question 4

Question and Scoring Guidelines
Question 4

Kylie walked at the park two days this week.

- On Monday, she walked $1 \frac{3}{5}$ miles.
- On Tuesday, she walked $1 \frac{3}{4}$ miles.

What is the total distance, in miles, that Kylie walked at the park this week?

Points Possible: 1

Content Cluster: Use equivalent fractions as a strategy to add and subtract fractions. (Fractions need not be simplified.)

Content Standard: Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. For example, recognize an incorrect result $\frac{2}{5} + \frac{1}{2} = \frac{3}{7}$, by observing that $\frac{3}{7} < \frac{1}{2}$. (5.NF.2)
Scoring Guidelines

Exemplar Response

- $\frac{7}{20}$

Other Correct Responses

- Any equivalent value

For this item, a full-credit response includes:

- The correct value (1 point).
Grade 5
Math
Practice Test

Question 4

Sample Responses
Sample Response: 1 point

Kylie walked at the park two days this week.

- On Monday, she walked $1 \frac{3}{5}$ miles.
- On Tuesday, she walked $1 \frac{3}{4}$ miles.

What is the total distance, in miles, that Kylie walked at the park this week?

3.35
**Notes on Scoring**

This response earns full credit (1 point) because the student correctly calculated the total distance, in miles, Kylie walked at the park this week.

- The student may have converted the mixed numbers to decimals and found the total of the two decimal values.

<table>
<thead>
<tr>
<th>Convert $1\frac{3}{5}$ miles into a decimal</th>
<th>Convert $1\frac{3}{4}$ miles into a decimal</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1\frac{3}{5} \times \frac{20}{20}$</td>
<td>$1\frac{3}{4} \times \frac{25}{25}$</td>
</tr>
<tr>
<td>$= (1 \times \frac{20}{20}) + (\frac{3 \times 20}{5 \times 20})$</td>
<td>$= (1 \times \frac{25}{25}) + (\frac{3 \times 25}{4 \times 25})$</td>
</tr>
<tr>
<td>$= 1 + \frac{60}{100}$</td>
<td>$= 1 + \frac{75}{100}$</td>
</tr>
<tr>
<td>$= 1\frac{60}{100}$</td>
<td>$= 1\frac{75}{100}$</td>
</tr>
<tr>
<td>$= 1.60$ miles</td>
<td>$= 1.75$ miles</td>
</tr>
</tbody>
</table>

$$1.60 \text{ miles} + 1.75 \text{ miles} = 3.35 \text{ miles}$$
Kylie walked at the park two days this week.

- On Monday, she walked $1 \frac{3}{5}$ miles.
- On Tuesday, she walked $1 \frac{3}{4}$ miles.

What is the total distance, in miles, that Kylie walked at the park this week?

\[
\frac{67}{20}
\]
Notes on Scoring

This response earns full credit (1 point) because the student correctly calculated the total distance, in miles, that Kylie walked at the park this week.

- The student may have converted the mixed numbers into improper fractions, found common denominators and then created equivalent fractions.

Converted the mixed numbers:

\[ \frac{3}{5} = \frac{8}{5} \quad \text{and} \quad \frac{2}{4} = \frac{7}{4} \]

Found common denominators and created equivalent fractions:

\[ \frac{8 \times 4}{5 \times 4} = \frac{32}{20} \quad \text{and} \quad \frac{7 \times 5}{4 \times 5} = \frac{35}{20} \]

Added the two improper fractions:

\[ \frac{8}{5} + \frac{7}{4} = \]

\[ \frac{32}{20} + \frac{35}{20} = \frac{67}{20} \]

While it may be convenient for students to place fractions in simplest form to help with problem solving, students are not required to place fractions in simplest form. A student can earn credit by identifying an equivalent value to a correct response.
Sample Response: 0 points

Kylie walked at the park two days this week.

- On Monday, she walked $1 \frac{3}{5}$ miles.
- On Tuesday, she walked $1 \frac{3}{4}$ miles.

What is the total distance, in miles, that Kylie walked at the park this week?

\[2 \frac{6}{9}\]
Notes on Scoring

This response earns no credit (0 points) because the student did not correctly calculate the total distance, in miles, that Kylie walked at the park this week.

- The student may have thought that he/she could add the mixed numbers together without first finding equivalent fractions with a common denominator.

\[
\frac{3}{5} + \frac{3}{4} = \left( 1 + \frac{3}{5} \right) + \left( 1 + \frac{3}{4} \right)
\]

\[
= 1 + 1 + \frac{3}{5} + \frac{3}{4}
\]

\[
= 2 + \frac{3}{5} + \frac{3}{4}
\]

\[
= 2 + \frac{6}{9}
\]

\[
= 2\frac{6}{9}
\]

\[
\frac{3}{5} + \frac{3}{4} \neq 2\frac{6}{9}
\]
Sample Response: 0 points

Kylie walked at the park two days this week.

- On Monday, she walked $1 \frac{3}{5}$ miles.
- On Tuesday, she walked $1 \frac{3}{4}$ miles.

What is the total distance, in miles, that Kylie walked at the park this week?

\[
\begin{array}{c}
\frac{15}{9}
\end{array}
\]

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>0</td>
<td>.</td>
<td>$\frac{5}{5}$</td>
</tr>
</tbody>
</table>
Notes on Scoring

This response earns no credit (0 points) because the student did not correctly calculate the total distance, in miles, that Kylie walked at the park this week.

- The student may have converted the mixed numbers into improper fractions, and then added the two improper fractions without finding common denominators or creating equivalent fractions.

\[
1\frac{3}{5} = \frac{8}{5} \quad \text{and} \quad 1\frac{3}{4} = \frac{7}{4}
\]

\[
\frac{8}{5} + \frac{7}{4} = \frac{15}{9}
\]

\[
\frac{8}{5} + \frac{7}{4} \neq \frac{15}{9}
\]
Grade 5
Math
Practice Test

Question 5

Question and Scoring Guidelines
Question 5

An area model is shown.

Which division problem can be solved using the area model?

A 3,600 ÷ 47
B 3,600 ÷ 49
C 3,649 ÷ 97
D 4,559 ÷ 97

Points Possible: 1

Content Cluster: Perform operations with multi-digit whole numbers and with decimals to hundredths.

Content Standard: Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. (5.NBT.6)
Scoring Guidelines

Rationale for Option A: This is incorrect. The student may have thought that the dividend is the rectangle with the largest area and that the sum of 40 and 7 is the divisor.

Rationale for Option B: This is incorrect. The student may have thought that the dividend is the rectangle with the largest area and that the rectangle with the smallest area is the divisor.

Rationale for Option C: This is incorrect. The student may have thought that the dividend is the sum of the rectangles with the largest and smallest areas and that the sum of 90 and 7 is the divisor.

Rationale for Option D: Key - The student correctly identified the sum of the areas of all four rectangles as the dividend and that the sum of 90 and 7 is the divisor.

Sample Response: 1 point
Grade 5
Math
Practice Test

Question 6

Question and Scoring Guidelines
Question 6

Zoe is reading books for a reading contest at her school. She reads the same number of pages each hour. She stops two times to record how many pages she has read. Her data are shown in the graph.

How long, in hours, does it take Zoe to read 60 pages?

hours

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>0</td>
<td></td>
<td>9/9</td>
</tr>
</tbody>
</table>

Points Possible: 1

**Content Cluster:** Graph points on the coordinate plane to solve real-world and mathematical problems.

**Content Standard:** Represent real-world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation. (5.G.2)
Scoring Guidelines

Exemplar Response
- 3 hours

Other Correct Responses
- Any equivalent value

For this item, a full-credit response includes:
- The correct value (1 point).
Grade 5
Math
Practice Test

Question 6

Sample Responses
Zoe is reading books for a reading contest at her school. She reads the same number of pages each hour. She stops two times to record how many pages she has read. Her data are shown in the graph.

How long, in hours, does it take Zoe to read 60 pages?

3 \text{ hours}
Sample Response: 1 point

Zoe is reading books for a reading contest at her school. She reads the same number of pages each hour. She stops two times to record how many pages she has read. Her data are shown in the graph.

The graph shows Zoe's Pages Read over time. The x-axis represents time in hours, ranging from 0 to 12, and the y-axis represents the number of pages read, ranging from 0 to 120.

How long, in hours, does it take Zoe to read 60 pages?

\[
\frac{60}{20} \text{ hours}
\]

---

1 2 3

4 5 6

7 8 9

0 . \(\frac{8}{9}\)
Notes on Scoring

This response earns full credit (1 point) because the student correctly identified how long, in hours, it took Zoe to read 60 pages.

- The student may have used the points on the graph to find how long, in hours, it took Zoe to read 60 pages.

The student may have identified on the graph that it takes Zoe 1 hour to read 20 pages and used the information from the graph to determine an equivalent value to the number of hours it takes Zoe to read 60 pages.

While it may be convenient for students to place fractions in simplest form to help with problem solving, students are not required to place fractions in simplest form. A student can earn credit by identifying an equivalent value to a correct response.
Zoe is reading books for a reading contest at her school. She reads the same number of pages each hour. She stops two times to record how many pages she has read. Her data are shown in the graph.

How long, in hours, does it take Zoe to read 60 pages?

180 hours
Notes on Scoring

This response earns no credit (0 points) because the student did not correctly identify how long, in hours, it took Zoe to read 60 pages.

- The student may have used the points on the graph to find how long, in hours, it took Zoe to read 60 pages and then multiplied the number of pages read by the number of hours Zoe took to read them.

The student may have identified that Zoe read 60 pages in 3 hours based on the information in the graph, and multiplied the two numbers together to get 180.

60 × 3 = 180
Sample Response: 0 points

Zoe is reading books for a reading contest at her school. She reads the same number of pages each hour. She stops two times to record how many pages she has read. Her data are shown in the graph.

How long, in hours, does it take Zoe to read 60 pages?

80 hours
Notes on Scoring

This response earns no credit (0 points) because the student did not correctly identify how long, in hours, it took Zoe to read 60 pages.

- The student may have used the points on the graph to find how many pages Zoe read in 4 hours.
Grade 5
Math
Practice Test

Question 7

Question and Scoring Guidelines
Question 7

Select the two expressions that have a value greater than \( \frac{107}{103} \).

- \( \frac{107}{103} \times \frac{101}{100} \)
- \( \frac{107}{103} \times \frac{103}{107} \)
- \( \frac{107}{103} \times \frac{107}{103} \)
- \( \frac{107}{103} \times \frac{107}{123} \)
- \( \frac{107}{103} \times \frac{119}{123} \)

Points Possible: 1

Content Cluster: Apply and extend previous understandings of multiplication and division to multiply and divide fractions. (Fractions need not be simplified.)

Content Standard: Interpret multiplication as scaling (resizing).

a. Compare the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication. (5.NF.5a)
Scoring Guidelines

Rationale for First Option: **Key** - The student correctly realized that since $\frac{101}{100}$ is greater than 1, the product of the two fractions is also greater than 1.

Rationale for Second Option: This is incorrect. The student may not have realized that the product of a number and its reciprocal is always equal to 1, which is less than $\frac{107}{103}$.

Rationale for Third Option: **Key** - The student correctly realized that since $\frac{107}{103}$ is greater than 1, the product of the two fractions is also greater than 1.

Rationale for Fourth Option: This is incorrect. The student may have assumed that the product of the two fractions is greater than $\frac{107}{103}$ since 123 is greater than 107 and 103.

Rationale for Fifth Option: This is incorrect. The student may have assumed that the product of the two fractions is greater than $\frac{107}{103}$ since 119 and 123 are greater than 107 and 103.

Sample Response: 1 point

Select the **two** expressions that have a value greater than $\frac{107}{103}$.

- $\frac{107}{103} \times \frac{101}{100}$
- $\frac{107}{103} \times \frac{103}{107}$
- $\frac{107}{103} \times \frac{107}{103}$
- $\frac{107}{103} \times \frac{107}{123}$
- $\frac{107}{103} \times \frac{119}{123}$
Grade 5
Math
Practice Test

Question 8

Question and Scoring Guidelines
Question 8

What is the product of 653 and 87? Enter the number in the box.

Points Possible: 1

Content Cluster: Perform operations with multi-digit whole numbers and with decimals to hundredths.

Content Standard: Fluently multiply multi-digit whole numbers using a standard algorithm. (5.NBT.5)
Scoring Guidelines

Exemplar Response

• 56,811

Other Correct Responses

• Any equivalent value

For this item, a full-credit response includes:

• A correct value (1 point).
Grade 5
Math
Practice Test

Question 8

Sample Responses
Sample Response: 1 point

What is the product of 653 and 87? Enter the number in the box.

56811

Notes on Scoring

This response earns full credit (1 point) because the student correctly calculated the product of 653 and 87.

- The student may have found the answer by decomposing the numbers into hundreds, tens, and ones, then multiplied using the distributive property.

\[
653 \times 87 = (600 + 50 + 3) \times (80 + 7) \\
= (600 \times 80) + (600 \times 7) + (50 \times 80) + (50 \times 7) + (3 \times 80) + (3 \times 7) \\
= (48000) + (4200) + (4000) + (350) + (240) + (21) \\
= 56811
\]

- The student may have found the answer by multiplying using an area model.

<table>
<thead>
<tr>
<th>600</th>
<th>50</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>80</td>
<td>600</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>x 80</td>
<td>x 80</td>
</tr>
<tr>
<td></td>
<td>48000</td>
<td>4000</td>
</tr>
<tr>
<td>7</td>
<td>600</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>x 7</td>
<td>x 7</td>
</tr>
<tr>
<td></td>
<td>4200</td>
<td>350</td>
</tr>
</tbody>
</table>
Sample Response: 0 points

Notes on Scoring

This response earns no credit (0 points) because the student did not correctly calculate the product of 653 and 87.
- The student may have thought that he/she was supposed to divide 653 by 87.
  \[ 653 \div 87 = \frac{653}{87} \]
Notes on Scoring

This response earns no credit (0 points) because the student did not correctly calculate the product of 653 and 87.
  - The student may have thought that he/she was supposed to add 87 to 653.

653 + 87 = 740
Grade 5
Math
Practice Test

Question 9

Question and Scoring Guidelines
Select the **two** expressions that have a value greater than 253.

- $253 \times \frac{3}{4}$
- $253 \times \frac{5}{5}$
- $253 \times \frac{9}{2}$
- $253 \times \frac{6}{7}$
- $253 \times \frac{4}{1}$

**Points Possible:** 1

**Content Cluster:** Apply and extend previous understandings of multiplication and division to multiply and divide fractions. (Fractions need not be simplified.)

**Content Standard:** Interpret multiplication as scaling (resizing).

a. Compare the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication. (5.NF.5a)
Scoring Guidelines

Rationale for First Option: This is incorrect. The student may have thought that multiplication always results in the original number becoming larger.

Rationale for Second Option: This is incorrect. The student may have selected the option where 253 remains the same value.

Rationale for Third Option: Key – The student correctly identified that multiplying by a fraction greater than 1 results in a larger number.

Rationale for Fourth Option: This is incorrect. The student may have thought that multiplication always results in the original number becoming larger.

Rationale for Fifth Option: Key – The student correctly identified that multiplying by a fraction greater than 1 results in a larger number.

Sample Response: 1 point

Select the two expressions that have a value greater than 253.

- 253 × \(\frac{3}{4}\)
- 253 × \(\frac{5}{5}\)
- 253 × \(\frac{9}{2}\)
- 253 × \(\frac{6}{7}\)
- 253 × \(\frac{4}{1}\)
Grade 5
Math
Practice Test

Question 10

Question and Scoring Guidelines
Question 10

The expanded form of a number is given.

\[(6 \times 10,000) + (5 \times 1,000) + (7 \times 1) + \left(3 \times \frac{1}{100}\right)\]

What is the number in decimal form? Enter the number in the box.

Points Possible: 1

Content Cluster: Understand the place value system.

Content Standard: Read, write, and compare decimals to thousandths.

a. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form,

e.g., \[347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times \frac{1}{10} + 9 \times \frac{1}{100} + 2 \times \frac{1}{1000}\]. (5.NBT.3a)
**Scoring Guidelines**

**Exemplar Response**
- 65,007.03

**Other Correct Responses**
- Any equivalent decimal

For this item, a full-credit response includes:
- A correct decimal (1 point).
Grade 5
Math
Practice Test

Question 10

Sample Responses
Sample Response: 1 point

The expanded form of a number is given.

\[(6 \times 10,000) + (5 \times 1,000) + (7 \times 1) + (3 \times \frac{1}{100})\]

What is the number in decimal form? Enter the number in the box.

65007.03

Notes on Scoring

This response earns full credit (1 point) because the student correctly wrote the number in decimal form.

- The student may have performed all of the multiplication inside the parentheses, then added the products, and converted the fraction \(\frac{3}{100}\) to a decimal.

\[(6 \times 10,000) + (5 \times 1,000) + (7 \times 1) + (3 \times \frac{1}{100})\]

\[= 60,000 + 5,000 + 7 + \frac{3}{100}\]

\[= 65,007 \frac{3}{100}\]

Convert \(\frac{3}{100}\) from a fraction into a decimal: \(\frac{3}{100} = 0.03\)
Sample Response: 1 point

The expanded form of a number is given.

\[(6 \times 10,000) + (5 \times 1,000) + (7 \times 1) + \left(3 \times \frac{1}{100}\right)\]

What is the number in decimal form? Enter the number in the box.

65007.0300

Notes on Scoring

This response earns full credit (1 point) because the student correctly wrote the number in decimal form.

- The student may have performed all of the multiplication inside the parentheses, then added the products, and converted the fraction \(\frac{3}{100}\) to a decimal.

\[
(6 \times 10,000) + (5 \times 1,000) + (7 \times 1) + (3 \times \frac{1}{100}) \\
= 60,000 + 5,000 + 7 + \frac{3}{100} \\
= 65,007\frac{3}{100}
\]

Convert \(\frac{3}{100}\) from a fraction into a decimal \(\frac{3}{100} = 0.03\)

\(0.03 = 0.0300\)

While precision to the nearest ten-thousandth place value is not required by the standards in grade 5, a student can earn credit by identifying an equivalent value to a correct response.
Sample Response: 0 points

The expanded form of a number is given.

\[(6 \times 10,000) + (5 \times 1,000) + (7 \times 1) + \left(3 \times \frac{1}{100}\right)\]

What is the number in decimal form? Enter the number in the box.

605007.03

Notes on Scoring

This response earns no credit (0 points) because the student did not correctly write the number in decimal form.

- The student may have incorrectly multiplied \(6 \times 10,000\) as \(6 \times 100,000\) and added it to the total of the other products in the expression.

\[
(6 \times 100,000) + (5 \times 1,000) + (7 \times 1) + (3 \times 0.01)
\]

\[
= 600,000 + 5,000 + 7 + 0.03
\]

\[
= 605,007.03
\]
Sample Response: 0 points

The expanded form of a number is given.

\[(6 \times 10,000) + (5 \times 1,000) + (7 \times 1) + \left(3 \times \frac{1}{100}\right)\]

What is the number in decimal form? Enter the number in the box.

65007.3

Notes on Scoring

This response earns no credit (0 points) because the student did not correctly write the number in decimal form.

- The student may have incorrectly multiplied \[3 \times \frac{1}{100}\] as \[3 \times \frac{1}{10}\] and added it to the total of the other products in the expression.

\[
(6 \times 10,000) + (5 \times 1,000) + (7 \times 1) + (3 \times 0.1)
= 60,000 + 5,000 + 7 + 0.3
= 65,007.3
\]
Grade 5
Math
Practice Test

Question 11

Question and Scoring Guidelines
Question 11

The picture shows \( \frac{3}{8} \) of Puja’s penny collection.

A. What fraction of her collection is 6 pennies? Enter the number in the first box.

B. What fraction of her collection is 21 pennies? Enter the number in the second box.

A. 

B. 

\[
\begin{array}{ccc}
1 & 2 & 3 \\
4 & 5 & 6 \\
7 & 8 & 9 \\
0 & \frac{9}{8} & \boxed{ \frac{9}{8} }
\end{array}
\]

Points Possible: 2

**Content Cluster:** Apply and extend previous understandings of multiplication and division to multiply and divide fractions. (Fractions need not be simplified.)

**Content Standard:** Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.

a. Interpret the product \( \frac{a}{b} \times q \) as a parts of a partition of \( q \) into \( b \) equal parts; equivalently, as the result of a sequence of operations \( a \times q \div b \).

For example, use a visual fraction model to show \( \frac{2}{3} \times 4 = \frac{8}{3} \) and create a story context for this equation. Do the same with \( \frac{2}{3} \times \frac{4}{5} = \frac{8}{15} \).

(In general, \( \frac{a}{b} \times \frac{c}{d} = \frac{ac}{bd} \).) (5.NF.4a)
Scoring Guidelines

Exemplar Response

- A. $\frac{1}{4}$
- B. $\frac{7}{8}$

Other Correct Responses

- Any equivalent values

For this item, a full-credit response includes:

- A correct value in Part A (1 point);
  
  AND

- A correct value in Part B (1 point).
Grade 5
Math
Practice Test

Question 11

Sample Responses
Sample Response: 2 points

The picture shows $\frac{3}{8}$ of Puja’s penny collection.

A. What fraction of her collection is 6 pennies? Enter the number in the first box.

B. What fraction of her collection is 21 pennies? Enter the number in the second box.

A. $\frac{1}{4}$

B. $\frac{7}{8}$
Notes on Scoring

This response earns full credit (2 points) because the student correctly calculated the fractions that 6 and 21 pennies make up in Puja’s collection.

- The student may have found the number of pennies in Puja’s whole collection by creating an equivalent fraction and solving a related multiplication equation to find the unknown value of each fraction in simplest form.

<table>
<thead>
<tr>
<th>Puja’s whole collection</th>
<th>What fraction of Puja’s 24 pennies is 6 pennies?</th>
<th>What fraction of Puja’s 24 pennies is 21 pennies?</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\frac{3}{8} \times 24 = 9$</td>
<td>$\square \times 24 = 6$</td>
<td>$\square \times 24 = 21$</td>
</tr>
<tr>
<td>$\frac{3}{8} \times 3 \times 8 = \frac{9}{24}$</td>
<td>Related division equation: $\square = 6 ÷ 24$</td>
<td>Related division equation: $\square = 21 ÷ 24$</td>
</tr>
</tbody>
</table>

$\frac{6}{24} = \frac{6 ÷ 6}{24 ÷ 6} = \frac{1}{4}$

$\frac{21}{24} = \frac{21 ÷ 3}{24 ÷ 3} = \frac{7}{8}$

$\frac{1}{4} \times 24 = 6$

$\frac{7}{8} \times 24 = 21$

6 pennies = $\frac{1}{4}$ of Puja’s collection and 21 pennies = $\frac{7}{8}$ of Puja’s collection
Sample Response: 2 points

The picture shows $\frac{3}{8}$ of Puja’s penny collection.

A. What fraction of her collection is 6 pennies? Enter the number in the first box.

B. What fraction of her collection is 21 pennies? Enter the number in the second box.

A. $\frac{6}{24}$

B. $\frac{21}{24}$
Notes on Scoring

This response earns full credit (2 points) because the student correctly calculated the fractions that 6 and 21 pennies make up in Puja’s collection.

- The student may have found the number of pennies in Puja’s whole collection by creating an equivalent fraction and solving a related multiplication equation to find the unknown value of each fraction.

<table>
<thead>
<tr>
<th>Puja’s whole collection</th>
<th>What fraction of Puja’s 24 pennies is 6 pennies?</th>
<th>What fraction of Puja’s 24 pennies is 21 pennies?</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \frac{3}{8} = \frac{9}{24} )</td>
<td>( \square \times 24 = 6 )</td>
<td>( \square \times 24 = 21 )</td>
</tr>
<tr>
<td>( \frac{3}{8} = \frac{3 \times 3}{8 \times 3} = \frac{9}{24} )</td>
<td>Related division equation: ( \square = 6 \div 24 )</td>
<td>Related division equation: ( \square = 21 \div 24 )</td>
</tr>
<tr>
<td>( \frac{9}{24} \times 24 = 9 )</td>
<td>( \square = \frac{6}{24} )</td>
<td>( \square = \frac{21}{24} )</td>
</tr>
</tbody>
</table>

6 pennies = \( \frac{6}{24} \) of Puja’s collection and 21 pennies = \( \frac{21}{24} \) of Puja’s collection

While it may be convenient for students to place fractions in simplest form to help with problem solving, students are not required to place fractions in simplest form. A student can earn credit by identifying an equivalent value to a correct response.
Sample Response: 1 point

The picture shows $\frac{3}{8}$ of Puja’s penny collection.

A. What fraction of her collection is 6 pennies? Enter the number in the first box.

B. What fraction of her collection is 21 pennies? Enter the number in the second box.

A. $\frac{2}{3}$

B. $\frac{21}{24}$
**Notes on Scoring**

This response earns partial credit (1 point) because the student correctly calculated the fraction that 21 pennies make up in Puja's collection, but did not correctly calculate the fraction that 6 pennies make up in Puja's collection.

- The student may have found the number of pennies in Puja's whole collection by creating an equivalent fraction and correctly solving a related multiplication equation to find the unknown value of only one of the fractions.

<table>
<thead>
<tr>
<th>Puja's whole collection</th>
<th>What fraction of Puja's 24 pennies is 6 pennies?</th>
<th>What fraction of Puja's 24 pennies is 21 pennies?</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \frac{3}{8} ) = 9[\square]</td>
<td>( \square \times 9 = 6 )</td>
<td>( \square \times 24 = 21 )</td>
</tr>
<tr>
<td>( \frac{3}{8} \times 3 = \frac{9}{24} )</td>
<td>Related division equation: ( \square = 6 \div 9 )</td>
<td>Related division equation: ( \square = 21 \div 24 )</td>
</tr>
<tr>
<td>( 24 = \text{Number of pennies in Puja's whole collection} )</td>
<td>( \square = \frac{6}{9} )</td>
<td>( \square = \frac{21}{24} )</td>
</tr>
<tr>
<td>( \frac{3}{8} \times 24 = 9 )</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\[ \frac{6}{9} = \frac{6 \div 3}{9 \div 3} = \frac{2}{3} \]

\[ \frac{2}{3} \times 24 \neq 6 \]

\[ \frac{7}{8} \times 24 = 21 \]

*6 pennies \( \neq \frac{2}{3} \) of Puja’s collection and 21 pennies \( = \frac{21}{24} \) of Puja’s collection*

While it may be convenient for students to place fractions in simplest form to help with problem solving, students are not required to place fractions in simplest form. A student can earn credit by identifying an equivalent value to a correct response.
Sample Response: 1 point

The picture shows \( \frac{3}{8} \) of Puja’s penny collection.

A. What fraction of her collection is 6 pennies? Enter the number in the first box.

B. What fraction of her collection is 21 pennies? Enter the number in the second box.

\[ A. \quad \frac{1}{4} \]

\[ B. \quad \frac{3}{4} \]
Notes on Scoring

This response earns partial credit (1 point) because the student correctly calculated the fraction that 6 pennies make up in Puja’s collection, but did not correctly calculate the fraction that 21 pennies make up in Puja’s collection.

- The student may have correctly found the decimal equivalent of the 6 pennies to the whole collection by solving a multiplication equation.
- The student may have found the incorrect decimal equivalent of the 21 pennies to the whole collection by subtracting the decimal amount of the 6 pennies in the collection from one whole.

Puja’s whole collection

\[
\frac{3}{8} \times 24 = 6
\]

\[
\frac{3}{8} = \frac{3 \times 3}{8 \times 3} = \frac{9}{24}
\]

24 = Number of pennies in Puja’s whole collection

What fraction of Puja’s 24 pennies is 6 pennies?

\[
\boxed{\quad} \times 24 = 6
\]

Related division equation:

\[
\boxed{\quad} = 6 \div 24
\]

\[
\boxed{\quad} = \frac{6}{24}
\]

\[
\boxed{\quad} = \frac{6}{24}
\]

\[
\frac{6}{24} = \frac{6 \div 6}{24 \div 6} = \frac{1}{4}
\]

\[
\frac{1}{4} = \frac{1 \times 25}{4 \times 25} = \frac{25}{100} = 0.25
\]

0.75 \times 24 \neq 21

6 pennies = 0.25 of Puja’s collection and 21 pennies \neq 0.75 of Puja’s collection
Sample Response: 0 points

The picture shows \( \frac{3}{8} \) of Puja’s penny collection.

A. What fraction of her collection is 6 pennies? Enter the number in the first box.

B. What fraction of her collection is 21 pennies? Enter the number in the second box.

A. \( \frac{2}{3} \)

B. \( \frac{21}{9} \)
Notes on Scoring

This response earns no credit (0 points) because the student did not correctly calculate the fractions that 6 and 21 pennies make up in Puja’s collection.

- The student may have incorrectly thought that 9 pennies represented Puja’s whole collection.

<table>
<thead>
<tr>
<th>What fraction of Puja’s 24 pennies is 6 pennies?</th>
<th>What fraction of Puja’s 24 pennies is 21 pennies?</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\frac{6}{9} \equiv \frac{6+3}{9+3} \equiv \frac{2}{3}$</td>
<td>$\frac{21}{9} \times 24 \neq 21$</td>
</tr>
</tbody>
</table>

$\frac{2}{3} \times 24 \neq 6$

6 pennies $\neq \frac{2}{3}$ of Puja’s collection and 21 pennies $\neq \frac{21}{9}$ of Puja’s collection
The picture shows \( \frac{3}{8} \) of Puja’s penny collection.

A. What fraction of her collection is 6 pennies? Enter the number in the first box.

B. What fraction of her collection is 21 pennies? Enter the number in the second box.

A. \( \frac{24}{9} \)

B. \( \frac{24}{21} \)
**Notes on Scoring**

This response earns no credit (0 points) because the student did not correctly calculate the fractions that 6 and 21 pennies make up in Puja’s collection.

- The student may have incorrectly set up and solved related multiplication equations to find the unknown value of each fraction.

<table>
<thead>
<tr>
<th>Puja’s whole collection</th>
<th>What fraction of Puja’s 24 pennies is 6 pennies?</th>
<th>What fraction of Puja’s 24 pennies is 21 pennies?</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/8 = 9/24</td>
<td>□ = 24 ÷ 9</td>
<td>□ = 24 ÷ 21</td>
</tr>
<tr>
<td>3 = 3x3 9/8 = 9</td>
<td>□ = 24/9</td>
<td>□ = 24/21</td>
</tr>
<tr>
<td>24 = Number of pennies in Puja’s whole collection</td>
<td>24/9 x 24 ≠ 6</td>
<td>24/21 x 24 ≠ 21</td>
</tr>
</tbody>
</table>

6 pennies ≠ \(\frac{24}{9}\) of Puja’s collection and 21 pennies ≠ \(\frac{24}{21}\) of Puja’s collection
Question 12

An expression with a missing operation symbol is shown.

18 ÷ [6 □ 3]

Which operation symbol should be placed in the box to make the expression have the smallest value?

A  +
B  −
C  ×
D  +

Points Possible: 1

Content Cluster: Write and interpret numerical expressions.

Content Standard: Use parentheses in numerical expressions, and evaluate expressions with this symbol. Formal use of algebraic order of operations is not necessary. (5.OA.1)
Scoring Guidelines

Rationale for Option A: This is incorrect. The student may have thought that 18 divided by 9 results in the smallest value.

Rationale for Option B: This is incorrect. The student may have chosen subtraction thinking that he/she needed to make the divisor as small as possible when, in fact, he/she needed to make it as big as possible.

Rationale for Option C: Key – The student correctly identified the quotient of 1, obtained by dividing 18 by 18, as being the smallest value of the expression.

Rationale for Option D: This is incorrect. The student may have chosen division thinking that he/she needed to make the divisor as small as possible when, in fact, he/she needed to make it as big as possible.

Sample Response: 1 point

An expression with a missing operation symbol is shown.

\[ 18 \div (6 \, \square \, 3) \]

Which operation symbol should be placed in the box to make the expression have the smallest value?

A  +
B  –
C  ×
D  ÷
Grade 5
Math
Practice Test

Question 13

Question and Scoring Guidelines
Question 13

The volume of a rectangular prism is 60 cubic units. The height of the prism is 5 units.

Use the Connect Line tool to draw a possible base for the prism.

Points Possible: 1

Content Cluster: Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.

Content Standard: Relate volume to the operations of multiplication and addition and solve real-world and mathematical problems involving volume. b. Apply the formulas $V = \ell \times w \times h$ and $V = B \times h$ for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real-world and mathematical problems. (5.MD.5)
Scoring Guidelines

Exemplar Response

Other Correct Responses

- Any rectangle with an area of 12 square units

For this item, a full-credit response includes:

- A correct rectangle (1 point).
Grade 5
Math
Practice Test

Question 13

Sample Responses
Notes on Scoring

This response earns full credit (1 point) because the student correctly created a possible base for the prism.

- The student may have used division to find the area of the base.
  \( V = Bh \)
  \( h = 5 \text{ units} \)
  \( \square \times 5 = 60 \text{ cubic units} \)

Related division equation:

- \( \square = 60 \div 5 \)
- \( \square = 12 \)
- \( B = 12 \text{ square units} \)

The student then may have used the area of a rectangle to find the dimensions of a possible rectangular base.

- \( B = l \times w \)
- 12 square units = \( 3 \times 4 \)
**Sample Response: 1 point**

The volume of a rectangular prism is 60 cubic units. The height of the prism is 5 units.

Use the Connect Line tool to draw a possible base for the prism.

---

**Notes on Scoring**

This response earns full credit (1 point) because the student correctly created a possible base for the prism.

\[ V = l \times w \times h \]

\[ h = 5 \text{ units} \]

\[ l \times w \times 5 = 60 \text{ cubic units} \]

\[ l \times w = 60 \div 5 \]

\[ l \times w = 12 \]

\[ l \times w = 12 \text{ square units} \]

\[ 6 \times 2 = 12 \text{ square units} \]
Sample Response: 0 points

The volume of a rectangular prism is 60 cubic units. The height of the prism is 5 units.

Use the Connect Line tool to draw a possible base for the prism.

---

Notes on Scoring

This response earns no credit (0 points) because the student did not correctly create a possible base for the prism.

- The student may have confused the formulas for area and volume.
  - \( A = b \times h \) or \( A = l \times w \)
  - \( A = 5 \times 12 \)
  - \( = 60 \) square units

\[ V = 5 \times 12 \times 5 \neq 60 \text{ cubic units} \]
Sample Response: 0 points

The volume of a rectangular prism is 60 cubic units. The height of the prism is 5 units.

Use the Connect Line tool to draw a possible base for the prism.

Notes on Scoring

This response earns no credit (0 points) because the student did not correctly create a possible base for the prism.
- The student may have thought that he/she was supposed to draw a rectangular prism with a volume of 60 cubic units.
Grade 5
Math
Practice Test

Question 14

Question and Scoring Guidelines
Question 14

Select the two decimal numbers that round to 3 when rounded to the nearest whole number.

☐ 2.74
☐ 2.06
☐ 2.48
☐ 3.61
☐ 3.19

Points Possible: 1

Content Cluster: Understand the place value system.

Content Standard: Use place value understanding to round decimals to any place, millions through hundredths. (5.NBT.4)
Scoring Guidelines

Rationale for First Option: **Key** - The student correctly identified a number that rounds to 3 when rounded to the nearest whole number.

Rationale for Second Option: This is incorrect. The student may have looked at the digit in the hundredths place instead of the tenths place.

Rationale for Third Option: This is incorrect. The student may have looked at the digit in the hundredths place instead of the tenths place, or rounded the number to 2.5 and then to 3.

Rationale for Fourth Option: This is incorrect. The student may have looked at the digit in the hundredths place instead of the tenths place.

Rationale for Fifth Option: **Key** - The student correctly identified a number that rounds to 3 when rounded to the nearest whole number.

Sample Response: 1 point

Select the two decimal numbers that round to 3 when rounded to the nearest whole number.

- [ ] 2.74
- [ ] 2.06
- [ ] 2.48
- [ ] 3.61
- [x] 3.19
A rectangle is shown.

\[
\begin{array}{c}
\frac{1}{4} \text{ ft} \\
\frac{2}{3} \text{ ft}
\end{array}
\]

What is a possible side length of a unit square that could be used to tile the rectangle?

(A) \( \frac{1}{3} \text{ ft} \)

(B) \( \frac{1}{4} \text{ ft} \)

(C) \( \frac{1}{6} \text{ ft} \)

(D) \( \frac{1}{12} \text{ ft} \)

**Points Possible: 1**

**Content Cluster:** Apply and extend previous understandings of multiplication and division to multiply and divide fractions. (Fractions need not be simplified.)

**Content Standard:** Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction. 

b. Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas. (5.NF.4b)
Scoring Guidelines

Rationale for Option A: This is incorrect. The student may have thought that a part of the \( \frac{2}{3} \) would be the length of the unit square.

Rationale for Option B: This is incorrect. The student may have thought that the smaller dimensions should be the length of the unit square.

Rationale for Option C: This is incorrect. The student may have identified the area of the rectangle, thinking that the area would be the length of each unit square.

Rationale for Option D: Key - The student correctly identified that the length of each unit square can be \( \frac{1}{12} \) because the rectangle measures 8 such unit squares across and 3 such unit squares tall.

Sample Response: 1 point
Grade 5
Math
Practice Test

Question 16

Question and Scoring Guidelines
Question 16

Three gymnasts compete in four events. Their scores for each of the four events are shown in the table. Complete the table to show the total overall score for each gymnast.

- Do not round your answers.

<table>
<thead>
<tr>
<th>Gymnast</th>
<th>Vault</th>
<th>Uneven Bars</th>
<th>Balance Beam</th>
<th>Floor</th>
<th>Total Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jayna</td>
<td>9.76</td>
<td>8.8</td>
<td>9.5</td>
<td>8.95</td>
<td></td>
</tr>
<tr>
<td>Myriam</td>
<td>9.03</td>
<td>9.45</td>
<td>9.38</td>
<td>9.05</td>
<td></td>
</tr>
<tr>
<td>Riley</td>
<td>8.65</td>
<td>9.23</td>
<td>9.5</td>
<td>9.4</td>
<td></td>
</tr>
</tbody>
</table>

Points Possible: 1

**Content Cluster:** Perform operations with multi-digit whole numbers and with decimals to hundredths.

**Content Standard:** Solve real-world problems by adding, subtracting, multiplying, and dividing decimals using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction, or multiplication and division; relate the strategy to a written method and explain the reasoning used. a. Add and subtract decimals, including decimals with whole numbers, (whole numbers through the hundreds place and decimals through the hundredths place). (5.NBT.7)
Scoring Guidelines

Exemplar Response

<table>
<thead>
<tr>
<th>Gymnast</th>
<th>Vault</th>
<th>Uneven Bars</th>
<th>Balance Beam</th>
<th>Floor</th>
<th>Total Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jayna</td>
<td>9.76</td>
<td>8.8</td>
<td>9.5</td>
<td>8.95</td>
<td>37.01</td>
</tr>
<tr>
<td>Myrlam</td>
<td>9.03</td>
<td>9.45</td>
<td>9.38</td>
<td>9.05</td>
<td>36.91</td>
</tr>
<tr>
<td>Riley</td>
<td>8.65</td>
<td>9.23</td>
<td>9.5</td>
<td>9.4</td>
<td>36.78</td>
</tr>
</tbody>
</table>

Other Correct Responses

- Any equivalent decimal value

For this item, a full-credit response includes:

- A correct table (1 point).
Grade 5
Math
Practice Test

Question 16

Sample Responses
Sample Response: 1 point

Three gymnasts compete in four events. Their scores for each of the four events are shown in the table. Complete the table to show the total overall score for each gymnast.

- Do not round your answers.

<table>
<thead>
<tr>
<th>Gymnast</th>
<th>Vault</th>
<th>Uneven Bars</th>
<th>Balance Beam</th>
<th>Floor</th>
<th>Total Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jayna</td>
<td>9.76</td>
<td>8.8</td>
<td>9.5</td>
<td>8.95</td>
<td>37.01</td>
</tr>
<tr>
<td>Myriam</td>
<td>9.03</td>
<td>9.45</td>
<td>9.38</td>
<td>9.05</td>
<td>36.91</td>
</tr>
<tr>
<td>Riley</td>
<td>8.65</td>
<td>9.23</td>
<td>9.5</td>
<td>9.4</td>
<td>36.78</td>
</tr>
</tbody>
</table>

Notes on Scoring

This response earns full credit (1 point) because the student correctly calculated the total score for each gymnast.

- Jayna: $9.76 + 8.8 + 9.5 + 8.95 = 37.01$
- Myriam: $9.03 + 9.45 + 9.38 + 9.05 = 36.91$
- Riley: $8.65 + 9.23 + 9.5 + 9.4 = 36.78$
Sample Response: 0 points

Three gymnasts compete in four events. Their scores for each of the four events are shown in the table.

Complete the table to show the total overall score for each gymnast.

- Do not round your answers.

<table>
<thead>
<tr>
<th>Gymnast</th>
<th>Vault</th>
<th>Uneven Bars</th>
<th>Balance Beam</th>
<th>Floor</th>
<th>Total Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jayna</td>
<td>9.76</td>
<td>8.8</td>
<td>9.5</td>
<td>8.95</td>
<td>37.0</td>
</tr>
<tr>
<td>Myriam</td>
<td>9.03</td>
<td>9.45</td>
<td>9.38</td>
<td>9.05</td>
<td>36.9</td>
</tr>
<tr>
<td>Riley</td>
<td>8.65</td>
<td>9.23</td>
<td>9.5</td>
<td>9.4</td>
<td>36.8</td>
</tr>
</tbody>
</table>

Notes on Scoring

This response earns no credit (0 points) because the student did not correctly calculate the total score for each gymnast.

- The student may have found the total score for each gymnast after four events and then rounded his/her answer to the nearest tenth.

  - **Jayna**: \(9.76 + 8.8 + 9.5 + 8.95 \neq 37.0\)
  - **Myriam**: \(9.03 + 9.45 + 9.38 + 9.05 \neq 36.9\)
  - **Riley**: \(8.65 + 9.23 + 9.5 + 9.4 \neq 36.8\)
Sample Response: 0 points

Three gymnasts compete in four events. Their scores for each of the four events are shown in the table.

Complete the table to show the total overall score for each gymnast.

- Do not round your answers.

<table>
<thead>
<tr>
<th>Gymnast</th>
<th>Vault</th>
<th>Uneven Bars</th>
<th>Balance Beam</th>
<th>Floor</th>
<th>Total Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jayna</td>
<td>9.76</td>
<td>8.8</td>
<td>9.5</td>
<td>8.95</td>
<td>20.54</td>
</tr>
<tr>
<td>Myriam</td>
<td>9.03</td>
<td>9.45</td>
<td>9.38</td>
<td>9.05</td>
<td>36.91</td>
</tr>
<tr>
<td>Riley</td>
<td>8.65</td>
<td>9.23</td>
<td>9.5</td>
<td>9.4</td>
<td>19.77</td>
</tr>
</tbody>
</table>

Notes on Scoring

This response earns no credit (0 points) because the student did not correctly calculate the total score for each gymnast.

- The student correctly calculated the total for Myriam, but did not correctly calculate the total for Jayna and Riley by adding digits from different place values together.

<table>
<thead>
<tr>
<th></th>
<th>Jayna</th>
<th>Myriam</th>
<th>Riley</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>9.76</td>
<td>9.03</td>
<td>8.65</td>
</tr>
<tr>
<td></td>
<td>8.8</td>
<td>9.45</td>
<td>9.23</td>
</tr>
<tr>
<td></td>
<td>9.5</td>
<td>9.38</td>
<td>9.5</td>
</tr>
<tr>
<td>+8.95</td>
<td>+9.05</td>
<td>+9.4</td>
<td></td>
</tr>
<tr>
<td>20.54</td>
<td>36.91</td>
<td>19.77</td>
<td></td>
</tr>
</tbody>
</table>
Grade 5
Math
Practice Test

Question 17

Question and Scoring Guidelines
Question 17

An expression is given.

\[ 1 \frac{7}{8} - \frac{6}{4} \]

What is the value of the expression? Enter the number in the box.

\[ \boxed{\quad} \]

Points Possible: 1

**Content Cluster:** Use equivalent fractions as a strategy to add and subtract fractions. (Fractions need not be simplified.)

**Content Standard:** Add and subtract fractions with unlike denominators (including mixed numbers and fractions greater than 1) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. For example, use visual models and properties of operations to show \( \frac{2}{3} + \frac{3}{4} = \frac{8}{12} + \frac{15}{12} = \frac{23}{12} \). In general, \( \frac{a}{b} + \frac{c}{d} = (\frac{a}{b} \times \frac{d}{d}) + (\frac{c}{d} \times \frac{b}{b}) = \frac{ad + bc}{bd} \). (5.NF.1)
Scoring Guidelines

Exemplar Response

- $\frac{3}{5}$

Other Correct Responses

- Any equivalent value

For this item, a full-credit response includes:

- A correct value (1 point).
Grade 5
Math
Practice Test

Question 17

Sample Responses
Sample Response: 1 point

An expression is given.

$$1\frac{7}{8} - \frac{6}{4}$$

What is the value of the expression? Enter the number in the box.

$$\frac{3}{8}$$
Notes on Scoring

This response earns full credit (1 point) because the student correctly calculated the value of the expression.

- The student may have changed $\frac{17}{8}$ into an improper fraction, found common denominators for the two numbers, and created equivalent fractions before subtracting.

$$\frac{7}{8} - \frac{6}{4} = \frac{15}{8} - \frac{6}{4}$$

$$\frac{15}{8} = \frac{15 \times 1}{8 \times 1} = \frac{15}{8} \text{ and } \frac{6}{4} = \frac{6 \times 2}{4 \times 2} = \frac{12}{8}$$

$$\frac{15}{8} - \frac{12}{8} = \frac{3}{8}$$
Sample Response: 1 point

An expression is given.

$1 \frac{7}{8} - \frac{6}{4}$

What is the value of the expression? Enter the number in the box.

.375
Notes on Scoring

This response earns full credit (1 point) because the student correctly calculated the value of the expression.

- The student may have changed $1\frac{7}{8}$ into an improper fraction, found common denominators for the two numbers, created equivalent fractions, performed the subtraction, and written his/her final answer as a decimal.

\[
\frac{7}{8} - \frac{6}{4} = \frac{15}{8} - \frac{6}{4}\\
\]

\[
\frac{15}{8} = \frac{15}{8 \times 1} = \frac{15}{8} \quad \text{and} \quad \frac{6}{4} = \frac{6}{4 \times 2} = \frac{12}{8}\\
\]

\[
\frac{15}{8} - \frac{12}{8} = \frac{3}{8}\\
\]

\[
\frac{3}{8} = 3 \div 8 = 0.375\\
\]

While students in grade 5 may choose to convert $\frac{3}{8}$ into a decimal, students are not expected to be able to convert rational numbers to decimals using long division until grade 7. A student can earn credit in grade 5 by identifying an equivalent value to a correct response.
An expression is given.

\[ \frac{7}{8} - \frac{6}{4} \]

What is the value of the expression? Enter the number in the box.

\[ 1 \frac{1}{8} \]

---

Sample Response: 0 points
Notes on Scoring

This response earns no credit (0 points) because the student did not calculate the value of the expression.

- The student may have found a common denominator for $\frac{7}{8}$ and $\frac{6}{4}$, but calculated an incorrect equivalent fraction to $\frac{7}{4}$.

\[
\frac{7}{8} = \frac{1 \times 1}{1} + \frac{7 \times 1}{8 \times 1} = \frac{17}{8} \quad \text{and} \quad \frac{6}{4} \neq \frac{6}{4 \times 2} \quad \text{however,} \quad \frac{6}{4 \times 2} = \frac{6}{8}
\]

\[
\frac{7}{8} - \frac{6}{8} = \frac{1}{8}
\]

\[
\frac{7}{8} - \frac{6}{4} \neq \frac{1}{8}
\]
Sample Response: 0 points

An expression is given.

$1 \frac{7}{8} - \frac{6}{4}$

What is the value of the expression? Enter the number in the box.

$1 \frac{1}{4}$
Notes on Scoring

This response earns no credit (0 points) because the student did not correctly calculate the value of the expression.

- The student may have subtracted without finding common denominators or equivalent fractions.

$$\frac{7}{8} - \frac{6}{4} \neq \frac{1}{4}$$
Question 18

What is $3.47 \times 10^4$? Enter the number in the box.

Points Possible: 1

Content Cluster: Understand the place value system.

Content Standard: Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10. (5.NBT.2)
Scoring Guidelines

Exemplar Response
  • 34,700

Other Correct Responses
  • Any equivalent value

For this item, a full-credit response includes:
  • The correct value (1 point).
Grade 5
Math
Practice Test

Question 18

Sample Responses
Sample Response: 1 point

What is $3.47 \times 10^4$? Enter the number in the box.

34700

Notes on Scoring

This response earns full credit (1 point) because the student calculated the correct value of $3.47 \times 10^4$.

- The student may have recognized $10^4$ as equivalent to 10,000 and multiplied 3.47 by 10,000.

$$10^4 = 10 \times 10 \times 10 \times 10$$
$$= 10,000$$

$$3.47 \times 10^4 = 3.47 \times 10,000$$
$$= 34700$$
Sample Response: 1 point

What is \(3.47 \times 10^4\)? Enter the number in the box.

\[
34700.00
\]

Notes on Scoring

This response earns full credit (1 point) because the student calculated the correct value of \(3.47 \times 10^4\).

- The student may have recognized \(10^4\) as equivalent to 10,000 and multiplied 3.4700 by 10,000.

\[
\begin{align*}
10^4 &= 10 \times 10 \times 10 \times 10 \\
&= 10,000
\end{align*}
\]

\[
\begin{align*}
3.4700 \times 10^4 &= 3.4700 \times 10,000 \\
&= 34700.00
\end{align*}
\]

A student can earn credit by identifying an equivalent value to a correct response.
Sample Response: 0 points

What is $3.47 \times 10^4$? Enter the number in the box.

0.000347

Notes on Scoring

This response earns no credit (0 points) because the student did not correctly calculate the value of $3.47 \times 10^4$.

- The student may have recognized $10^4$ as equivalent to 10,000 and divided 3.47 by 10,000.

$$10^4 = 10 \times 10 \times 10 \times 10$$
$$= 10,000$$

$$3.4700 \div 10^4 = 3.4700 \div 10,000$$
$$= 0.000347$$
Sample Response: 0 points

What is $3.47 \times 10^4$? Enter the number in the box.

3470

Notes on Scoring

This response earns no credit (0 points) because the student did not correctly calculate the value of $3.47 \times 10^4$.

- The student may have thought that $10^4$ is equivalent to 100 and multiplied 3.47 by 100.

$$10^4 \neq 10 \times 10$$
$$10 \times 10 = 100$$

$$3.47 \times 10^4 \neq 3.47 \times 100$$
$$3.47 \times 100 = 3470$$
What is the volume, in cubic inches, of the prism?

A 27 cubic inches  
B 60 cubic inches  
C 64 cubic inches  
D 125 cubic inches

Points Possible: 1

Content Cluster: Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.

Content Standard: Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units. (5.MD.4)
**Scoring Guidelines**

**Rationale for Option A:** This is incorrect. The student may have multiplied 3 by 3 by 3.

**Rationale for Option B:** **Key** – The student correctly determined the volume.

**Rationale for Option C:** This is incorrect. The student may have multiplied 4 by 4 by 4.

**Rationale for Option D:** This is incorrect. The student may have multiplied 5 by 5 by 5.

**Sample Response: 1 point**

A rectangular prism is shown.

![Diagram of a rectangular prism]

What is the volume, in cubic inches, of the prism?

- (A) 27 cubic inches
- (B) 60 cubic inches
- (C) 64 cubic inches
- (D) 125 cubic inches
Question 20

Val has 6 yards of fabric. She uses $\frac{1}{3}$ of it to make a shirt. Then, she uses $\frac{3}{5}$ of the fabric that is left to make a shirt for her younger sister.

How many yards of fabric does Val have left after making both shirts? Enter the number in the box.

Points Possible: 1

Content Cluster: Apply and extend previous understandings of multiplication and division to multiply and divide fractions. (Fractions need not be simplified.)

Content Standard: Solve real-world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem. (5.NF.6)

Scoring Guidelines

Exemplar Response

• $2 \frac{1}{2}$ yards

Other Correct Responses

• Any equivalent value

For this item, a full-credit response includes:

• A correct value (1 point).
Grade 5 Math Practice Test

Question 20

Sample Responses
Val has 6 yards of fabric. She uses \( \frac{1}{3} \) of it to make a shirt. Then, she uses \( \frac{3}{8} \) of the fabric that is left to make a shirt for her younger sister.

How many yards of fabric does Val have left after making both shirts? Enter the number in the box.

\[
\begin{array}{|c|c|c|}
\hline
20 & \underline{8} & \text{yards} \\
\hline
\end{array}
\]

\[
\begin{array}{|c|c|c|}
\hline
1 & 2 & 3 \\
4 & 5 & 6 \\
7 & 8 & 9 \\
0 & . & \frac{9}{10} \\
\hline
\end{array}
\]
Notes on Scoring

This response earns full credit (1 point) because the student correctly calculated how many yards of fabric Val has left after making both shirts.

- The student may have correctly used multiplication to find the number of yards of fabric Val used to make the first shirt.
  \[ 6 \times \frac{1}{3} = \frac{6}{3} = 6 + 3 = 2 \text{ yards of fabric} \]

- The student then may have correctly used subtraction to find the amount of fabric she has left to make a shirt for her sister after making the first shirt.
  \[ 6 \text{ yards} - 2 \text{ yards} = 4 \text{ yards} \]

- The student then may have correctly used multiplication to find the number of yards of fabric Val used to make a shirt for her younger sister.
  \[ 4 \times \frac{3}{8} = \frac{12}{8} = 1 \frac{4}{8} \text{ yards} \]

- The student then may have correctly added the amount of fabric used to make both shirts together and then subtracted from the 6 yards of fabric Val started with.
  \[ 2 + 1 \frac{4}{8} = 3 \frac{4}{8} \text{ yards} \]
  \[ 6 - 3 \frac{4}{8} = \frac{48}{8} - \frac{28}{8} = \frac{20}{8} = 2 \frac{1}{8} \text{ yards} \]
Sample Response: 1 point

Val has 6 yards of fabric. She uses \( \frac{1}{3} \) of it to make a shirt. Then, she uses \( \frac{3}{8} \) of the fabric that is left to make a shirt for her younger sister.

How many yards of fabric does Val have left after making both shirts? Enter the number in the box.

\[
\frac{10}{4} \text{ yards}
\]
Notes on Scoring

This response earns full credit (1 point) because the student correctly calculated how many yards of fabric Val has left after making both shirts.

- The student may have correctly used multiplication to find the number of yards of fabric Val used to make the first shirt.
  \[ 6 \times 1 \frac{1}{3} = \frac{6}{3} \]
  \[ = 6 \div 3 \]
  \[ = 2 \text{ yards of fabric} \]

- The student then may have correctly used subtraction to find the amount of fabric she has left to make a shirt for her sister after making the first shirt.
  \[ 6 \text{ yards} - 2 \text{ yards} = 4 \text{ yards} \]

- The student then may have correctly used multiplication to find the number of yards of fabric Val used to make a shirt for her younger sister.
  \[ 4 \times \frac{3}{8} = \frac{12}{8} \]
  \[ = 1\frac{1}{8} \text{ yards} \]

- The student then may have correctly added the amount of fabric used to make both shirts together and then subtracted from the 6 yards of fabric Val started with.
  \[ 2 + 1\frac{4}{8} = 3\frac{4}{8} \text{ yards} \]
  
  \[ 6 - 3\frac{4}{8} = \]
  
  \[ 6 = \frac{48}{8} \text{ and } 3\frac{4}{8} = \frac{28}{8} \]
  
  \[ 6 - 3\frac{4}{8} = \frac{48}{8} - \frac{28}{8} \]
  
  \[ = \frac{20}{8} \]
  
  \[ = \frac{20}{8} \div 2 \]
  
  \[ = \frac{10}{4} \]
Val has 6 yards of fabric. She uses $\frac{1}{3}$ of it to make a shirt. Then, she uses $\frac{3}{8}$ of the fabric that is left to make a shirt for her younger sister.

How many yards of fabric does Val have left after making both shirts? Enter the number in the box.

\[ \frac{12}{8} \text{ yards} \]
Notes on Scoring

This response earns no credit (0 points) because the student did not correctly calculate how many yards of fabric Val has left after making both shirts.

- The student may have correctly used multiplication to find the number of yards of fabric Val used to make the first shirt.
  \[ 6 \times \frac{1}{3} = \frac{6}{3} = 6 \div 3 = 2 \text{ yards of fabric} \]

- The student then may have correctly used subtraction to find the amount of fabric she has left to make a shirt for her sister after making the first shirt.
  \[ 6 \text{ yards} - 2 \text{ yards} = 4 \text{ yards} \]

- The student then may have correctly used multiplication to find the number of yards of fabric Val used to make a shirt for her younger sister.
  \[ 4 \times \frac{3}{8} = \frac{12}{8} \text{ yards} \]

- The student then may have incorrectly identified the amount used to make the shirt for her younger sister as the amount of fabric Val has left after making both shirts.
Sample Response: 0 points

Val has 6 yards of fabric. She uses $\frac{1}{3}$ of it to make a shirt. Then, she uses $\frac{3}{8}$ of the fabric that is left to make a shirt for her younger sister.

How many yards of fabric does Val have left after making both shirts? Enter the number in the box.

\[ \frac{14}{8} \text{ yards} \]
Notes on Scoring

This response earns no credit (0 points) because the student did not correctly calculate how many yards of fabric Val has left after making both shirts.

- The student may have correctly used multiplication to find the number of yards of fabric Val used to make the first shirt.
  \[ 6 \times \frac{1}{3} = \frac{6}{3} = 6 \div 3 = 2 \text{ yards of fabric} \]

- The student then may have correctly used subtraction to find the amount of fabric she has left to make a shirt for her sister after making the first shirt.
  \[ 6 \text{ yards} - 2 \text{ yards} = 4 \text{ yards} \]

- The student then may have correctly used multiplication to find the number of yards of fabric Val used to make a shirt for her younger sister, and then may have incorrectly converted the mixed number to an improper fraction,
  \[ 4 \times \frac{3}{8} = \frac{12}{8} \neq \frac{14}{8} \]
  \[ \frac{14}{8} \neq 1 \frac{4}{8} \text{ yards} \]

- The student then may have incorrectly identified the amount used to make the shirt for her younger sister as the amount of fabric Val has left after making both shirts.
Grade 5 Math Practice Test

Question 21

Question and Scoring Guidelines
Question 21

What is the value of $13 \div \frac{1}{5}$? Enter the number in the box.

Points Possible: 1

**Content Cluster:** Apply and extend previous understandings of multiplication and division to multiply and divide fractions. (Fractions need not be simplified.)

**Content Standard:** Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions. In general, students able to multiply fractions can develop strategies to divide fractions, by reasoning about the relationship between multiplication and division, but division of a fraction by a fraction is not a requirement at this grade.  

b. Interpret division of a whole number by a unit fraction, and compute such quotients. For example, create a story context for $4 \div \left(\frac{1}{5}\right)$, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that $4 \div \left(\frac{1}{5}\right) = 20$ because $20 \times \left(\frac{1}{5}\right) = 4$. (5.NF.7b)
**Scoring Guidelines**

**Exemplar Response**
- 65

**Other Correct Responses**
- Any equivalent value

For this item, a full-credit response includes:
- The correct quotient (1 point).
Grade 5
Math
Practice Test

Question 21

Sample Responses
Sample Response: 1 point

What is the value of $13 \div \frac{1}{5}$? Enter the number in the box.

65
**Notes on Scoring**

This response earns full credit (1 point) because the student correctly calculated the value of $13 \div \frac{1}{5}$.

- The student may have solved the question by creating a model to illustrate the relationship between dividing a whole number by a fraction and multiplying by a reciprocal.

<table>
<thead>
<tr>
<th>1 whole</th>
<th>1 whole</th>
<th>1 whole</th>
<th>1 whole</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\frac{1}{5}$</td>
<td>$\frac{1}{5}$</td>
<td>$\frac{1}{5}$</td>
<td>$\frac{1}{5}$</td>
</tr>
<tr>
<td>$\frac{1}{5}$</td>
<td>$\frac{1}{5}$</td>
<td>$\frac{1}{5}$</td>
<td>$\frac{1}{5}$</td>
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<tr>
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<td>$\frac{1}{5}$</td>
</tr>
<tr>
<td>$\frac{1}{5}$</td>
<td>$\frac{1}{5}$</td>
<td>$\frac{1}{5}$</td>
<td>$\frac{1}{5}$</td>
</tr>
</tbody>
</table>

$13 \div \frac{1}{5} = 13 \times 5 = 65$
What is the value of $13 \div \frac{1}{5}$? Enter the number in the box.

\[ \frac{65}{1} \]

[Number input interface with options for 0-9 and decimal point]
Notes on Scoring

This response earns full credit (1 point) because the student correctly calculated the value of $13 \div \frac{1}{5}$.

- The student may have multiplied 13 by the reciprocal of $\frac{1}{5}$ and kept his/her answer as an improper fraction.

\[
13 \div \frac{1}{5} = 13 \times \frac{5}{1} = \frac{13 \times 5}{1} = \frac{65}{1}
\]

While it may be convenient for students to place fractions in lowest terms to help with problem solving, students are not required to place fractions in simplest form. A student can earn credit by identifying an equivalent value to a correct response.
Sample Response: 0 points

What is the value of $13 \div \frac{1}{5}$? Enter the number in the box.

\[
\begin{array}{c}
\frac{13}{5} \\
\end{array}
\]

1 2 3
4 5 6
7 8 9
0 . \frac{1}{5}
Notes on Scoring

This response earns no credit (0 points) because the student did not correctly calculate the value of $13 \div \frac{1}{5}$.

- The student may have multiplied $13$ by $\frac{1}{5}$ instead of by the reciprocal of $\frac{1}{5}$.
  
  $13 \times \frac{1}{5} \neq \frac{13 \times 1}{5}$
  
  $= \frac{13}{5}$

  $13 \div \frac{1}{5} \neq \frac{13}{5}$
Sample Response: 0 points

What is the value of $13 \div \frac{1}{5}$? Enter the number in the box.

75

1 2 3
4 5 6
7 8 9
0 .
Notes on Scoring

This response earns no credit (0 points) because the student did not correctly calculate the value of $13 \div \frac{1}{5}$.

- The student may have multiplied 15 by the reciprocal of $\frac{1}{5}$.

\[
15 \div \frac{1}{5} = 15 \times \frac{5}{1}
\]
\[
= \frac{15 \times 5}{1}
\]
\[
= \frac{75}{1}
\]
\[
= 75
\]

$13 \div \frac{1}{5} \neq 75$
Grade 5
Math
Practice Test

Question 22

Question and Scoring Guidelines
Question 22

An expression is described in words.

"Add 8 and 17, double the sum, and then subtract three."

Create the expression using numbers and symbols.

Points Possible: 1

Content Cluster: Write and interpret numerical expressions.

Content Standard: Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. For example, express the calculation “add 8 and 7, then multiply by 2” as $2 \times (8 + 7)$. Recognize that $3 \times (18,932 + 921)$ is three times as large as $18,932 + 921$, without having to calculate the indicated sum or product. (5.OA.2)
**Scoring Guidelines**

**Exemplar Response**
- \(2(8 + 17) - 3\)

**Other Correct Responses**
- Any equivalent expression that uses the numbers 2, 8, 17, and 3

For this item, a full-credit response includes:
- A correct expression (1 point).
Sample Response: 1 point

An expression is described in words.
“Add 8 and 17, double the sum, and then subtract three.”

Create the expression using numbers and symbols.

\[(8+17)\times2-3\]

Notes on Scoring
This response earns full credit (1 point) because the student created a correct expression.
Sample Response: 1 point

An expression is described in words.

“Add 8 and 17, double the sum, and then subtract three.”

Create the expression using numbers and symbols.

\[ 2(8+17) - 3 \]

Notes on Scoring

This response earns full credit (1 point) because the student created a correct expression.
Sample Response: 0 points

An expression is described in words.

“Add 8 and 17, double the sum, and then subtract three.”

Create the expression using numbers and symbols.

8 + 17 × 2 − 3

Notes on Scoring

This response earns no credit (0 points) because the student created an incorrect expression.

- The student may have incorrectly interpreted the meaning of double the sum.
Sample Response: 0 points

An expression is described in words.

“Add 8 and 17, double the sum, and then subtract three.”

Create the expression using numbers and symbols.

\[25 \times 2 - 3\]

Notes on Scoring

This response earns no credit (0 points) because the student created an incorrect expression.

- The student may have added 8 and 17 together in order to get 25 and created a different expression than the one described in words.
Grade 5
Math
Practice Test

Question 23

Question and Scoring Guidelines
Question 23

The prices of four items at a grocery store are shown in the table.

<table>
<thead>
<tr>
<th>Item</th>
<th>Price (dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bottle of Juice</td>
<td>$2.49</td>
</tr>
<tr>
<td>Can of Tuna</td>
<td>$0.99</td>
</tr>
<tr>
<td>Cereal</td>
<td>$3.09</td>
</tr>
<tr>
<td>Gallon of Milk</td>
<td>$1.79</td>
</tr>
</tbody>
</table>

Move each item to a blank box to order the items from least expensive to most expensive.

Least Expensive  Most Expensive

[Bottle of Juice]  [Can of Tuna]  [Cereal]  [Gallon of Milk]

Points Possible: 1

Content Cluster: Understand the place value system.

Content Standard: Read, write, and compare decimals to thousandths.
b. Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons. (5.NBT.3b)
Scoring Guidelines

Exemplar Response

Other Correct Responses

- N/A

For this item, a full-credit response includes:

- The correctly ordered list (1 point).
Grade 5
Math
Practice Test
Question 23
Sample Responses
The prices of four items at a grocery store are shown in the table.

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</tbody>
</table>

Move each item to a blank box to order the items from least expensive to most expensive.

Can of Tuna  Gallon of Milk  Bottle of Juice  Cereal

Least Expensive  Most Expensive

Notes on Scoring

This response earns full credit (1 point) because it correctly placed each item in order from least to greatest based on the cost of each item.
Sample Response: 0 points

The prices of four items at a grocery store are shown in the table.

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<td>$1.79</td>
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</tbody>
</table>

Move each item to a blank box to order the items from least expensive to most expensive.

Cereal  Bottle of Juice  Gallon of Milk  Can of Tuna

Least Expensive  Most Expensive

Notes on Scoring

This response earns no credit (0 points) because it incorrectly placed each item in order from least to greatest based on the cost of each item.
- The student may have thought that he or she was supposed to place the cost of the items in order from greatest to least.
Grade 5 Math Practice Test

Question 24

Question and Scoring Guidelines
Question 24

An expression is given.

$56 \times 10^2$

Select a word or phrase for each blank box to explain how the digits would be moved to find the value of the expression.

The digits would move _____ to the _____

Points Possible: 1

Content Cluster: Understand the place value system.

Content Standard: Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10. (5.NBT.2)
Scoring Guidelines

Exemplar Response

• The digits would move 2 place values to the left.

Other Correct Responses

• N/A

For this item, a full-credit response includes:

• A correct statement (1 point).
Grade 5
Math
Practice Test

Question 24

Sample Responses
Sample Response: 1 point

An expression is given.

\[ 56 \times 10^2 \]

Select a word or phrase for each blank box to explain how the digits would be moved to find the value of the expression.

The digits would move 2 place values to the left.

Notes on Scoring

This response earns full credit (1 point) because it correctly selected the word or phrase needed to complete the explanation of how the digits move to find the value of the expression.

- The student recognized \( 10^2 \) as equivalent to 100 and multiplied 56 by 100.

\[
10^2 = 10 \times 10 \\
= 100
\]

\[
56 \times 10^2 \\
= 56 \times 100 \\
= 5600
\]

The digits move 2 place values to the left.
Sample Response: 0 points

An expression is given.

56 \times 10^2

Select a word or phrase for each blank box to explain how the digits would be moved to find the value of the expression.

The digits would move $\boxed{2}$ place values to the $\boxed{\text{right}}$.

Notes on Scoring

This response earns no credit (0 points) because it incorrectly selected the word or phrase needed to complete the explanation of how the digits move to find the value of the expression.

- The student correctly recognized $10^2$ as equivalent to 100 but incorrectly divided 56 by 100.

\[
10^2 = 10 \times 10 \\
= 100
\]

\[
56 \div 10^2 \\
= 56 \div 100 \\
= 0.56
\]

The digits move $\boxed{2}$ place values to the $\boxed{\text{right}}$. 

Sample Response: 0 points

An expression is given.

\[ 56 \times 10^2 \]

Select a word or phrase for each blank box to explain how the digits would be moved to find the value of the expression.

The digits would move 4 place values to the left.

Notes on Scoring

This response earns no credit (0 points) because it incorrectly selected the word or phrase needed to complete the explanation of how the digits move to find the value of the expression.

- The student may have correctly recognized 10^2 as equivalent to 100 but incorrectly multiplied 100 by 5600 instead of by 56.

\[
10^2 = 10 \times 10 \\
= 100
\]

\[
5600 \times 10^2 \\
= 5600 \times 100 \\
= 560000
\]

The digits would move 4 place values to the left.