For this item, a full-credit response (2 points) includes:

- a fraction with a denominator less than 7 that is greater than 3/7 AND
- a fraction with a denominator greater than or equal to 7 that is greater than 3/7

For partial credit, the student completes the above tasks for 1 point each.
For this item, a full-credit (1 point) response includes:

- 3, 9, and 27 in the “Factors of 27” column AND
- 5, 7, and 35 in the “Factors of 35” column
Joe and Sally make 72 cookies for a bake sale. They will put an equal number of cookies into bags. Joe and Sally want to put more than 2 cookies but fewer than 10 cookies into each bag.

Sally says they can only put 8 cookies into 9 bags or 9 cookies into 8 bags.

Joe thinks there are more ways to put an equal number of cookies into bags.

Part A
Write one way that Joe and Sally could put an equal number of cookies into bags with fewer than 5 cookies per bag.

For this item, a full-credit response (1 point) includes:

- accurately selecting one factor pair consisting of a number greater than 2 and less than 5

For example,

- “3 cookies in 24 bags”
- “4 in 18 bags”

For this item, an incorrect response (0 points) includes:

- the absence of both factor pairs

For example,

- “3 cookies”
- “24 bags”

*This item is not graded for spelling or grammar.*
Joe and Sally make 72 cookies for a bake sale. They will put an equal number of cookies into bags. Joe and Sally want to put more than 2 cookies but fewer than 10 cookies into each bag.

Sally says they can only put 8 cookies into 9 bags or 9 cookies into 8 bags.

Joe thinks there are more ways to put an equal number of cookies into bags.

**Part B**

Write another way that Joe and Sally could put an equal number of cookies into bags with more than 5 cookies per bag.

For this item, a full-credit response (1 point) includes:

- accurately selecting the factor pair consisting of 6 cookies and 12 bags

For example,

- “6 cookies in 12 bags”

For this item, an incorrect response (0 points) includes:

- the absence of both factor pairs

For example,

- “6 cookies”
  - OR
  - “12 bags”

*This item is not graded for spelling or grammar.*
Drag each expression to the correct column to show whether the product is less than or greater than 1.

<table>
<thead>
<tr>
<th>Less Than 1</th>
<th>Greater Than 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 × (\frac{1}{2})</td>
<td>5 × (\frac{1}{4})</td>
</tr>
<tr>
<td>1 × (\frac{1}{5})</td>
<td>4 × (\frac{3}{5})</td>
</tr>
<tr>
<td>2 × (\frac{2}{5})</td>
<td></td>
</tr>
</tbody>
</table>

For this item, a full-credit (1 point) includes:

- \(1 × \frac{1}{5}\) and \(2 × \frac{2}{5}\) in the “Less Than 1” column
- \(3 × \frac{1}{2}\), \(5 × \frac{1}{4}\), and \(4 × \frac{3}{5}\) in the “Greater Than 1” column
Jo has a piece of tape that is $\frac{7}{8}$ inch long. She cuts the tape into two pieces. One piece is $\frac{3}{8}$ inch long. How long is the other piece of tape?

A $\frac{3}{8}$ in
B $\frac{4}{8}$ in
C $\frac{7}{8}$ in
D $\frac{10}{8}$ in

For this item, a full-credit response (1 point) includes:

- option B
Maya is building a tower with blocks.

The table below shows the number and color of the blocks.

<table>
<thead>
<tr>
<th>Color</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>25</td>
</tr>
<tr>
<td>Green</td>
<td>28</td>
</tr>
<tr>
<td>Blue</td>
<td>29</td>
</tr>
<tr>
<td>Yellow</td>
<td>24</td>
</tr>
</tbody>
</table>

- Maya builds a tower that uses 6 blocks for each level.
- Maya uses exactly 2 different colors.
- There are no blocks remaining of the 2 colors Maya uses.

Which color blocks does Maya use? Click on the correct two colors.

How many levels does Maya’s tower have? Drag the correct number to the box.

For this item, a full-credit (2 points) includes:

- the red and blue boxes selected
  AND
- the value 9

For partial credit, the student completes the above tasks for 1 point each.
Select all equations that are true.

- $\frac{4}{10} = 0.04$
- $\frac{17}{100} = 0.17$
- $\frac{9}{100} = 0.09$
- $\frac{6}{100} = 0.60$

For this item, a full-credit response (1 point) includes:

- option B
  AND
- option C
For this item, a full-credit response (1 point) includes:

- the correct equation

\[
\begin{align*}
5086 \\
-3488 \\
\hline
1608
\end{align*}
\]
For this item, a full-credit response (1 point) includes:

- the correct table as shown below

```
  20   6
30   600 180
  2   40  12
```

OR

- the value 832
To play a game, each player must make a 5-digit even number. The player with the greatest number is the winner of the game. These digit cards show the number made by player 1.

These cards show which numbers are left.

Use the remaining cards to create a 5-digit even number that will win the game.

For this item, a full-credit response (2 points) includes:

- a 5-digit even number greater than 87,654 containing the numbers 0, 1, 2, 3, and 9

For example,

- the value 93,210

For partial credit (1 point), the student creates

- an even number less than 87,654
  OR
- an odd number greater than 87,654
Use the rectangle to solve the problem.

The area of the rectangle is 420 square centimeters.
What is the perimeter, in centimeters, of the rectangle?

For this item, a full-credit response (2 point) includes:

- the value 86

For partial credit (1 point), a student gives the missing dimension 15 instead of the perimeter.
Jack, Max, and Annie are hiking on the same trail.

- Jack is $\frac{1}{2}$ finished.
- Max is $\frac{1}{3}$ finished.
- Annie is $\frac{5}{8}$ finished.

Drag each person to his or her location on the trail.

For this item, a full-credit response (2 point) includes:

- the correct placement of Max, Jack, and Annie as shown

For partial credit (1 point), a student places at least 1 or 2 people correctly.
Which of the following expressions have a sum equal to $\frac{91}{100}$?

- $\frac{6}{10} + \frac{31}{100}$
- $\frac{7}{10} + \frac{19}{100} + \frac{2}{10}$
- $\frac{17}{100} + \frac{3}{10} + \frac{44}{100}$
- $\frac{33}{100} + \frac{28}{100} + \frac{4}{10}$
- $\frac{86}{100} + \frac{5}{10}$

For this item, a full-credit response (1 point) includes:

- option A
  AND
- option C
Ray $NM$ is shown.

A. Angle $MNP$ measures 45°.
   
   Use the Add Arrow tool to draw ray $NP$. Drag a label for point $P$.
   
   Angle $PNR$ measures 60°.
   
   Use the Add Arrow tool to draw ray $NR$. Drag a label for point $R$.

B. Drag numbers into the box to show the measure of angle $MNR$.

For this item, a full-credit response (3 points) includes:

- angle $MNP$ has a measure of 45 degrees, $P$ is properly placed AND
- angle $MNR$ has a measure of 105 degrees, $R$ is properly placed AND
- a value of 105

For partial credit, the student completes each task for 1 point each.
The cost of buying a movie is 4 times the cost of renting a movie. It costs $20 to buy a movie.

A. Choose an equation that can be used to determine the cost of renting a movie, \( r \).

B. Drag a number into the box to show the cost of renting a movie.

For this item, a full-credit response (2 points) includes:

- the equation \( 4 \times r = 20 \) OR \( 20 \div 4 = r \) selected AND
- a value of 5

For partial credit, the student completes each task for 1 point each.
For this item, a full-credit response (1 point) includes:

- the numbers 9 or 15 and an explanation of how they are not prime

For example,

- “9 is not prime because it is the product of 3 and 3”
  OR
- “9 is composite because 9 divided by 3 is 3”
  OR
- “15 because you can multiply 3 and 5 to get it”
  OR
- “fifteen is not prime because 3 times 5 is 15”

For this item, an incorrect response (0 points) includes:

- an incorrect number
  OR
- a correct number without an explanation

For example,

- “21 is not prime because 7 times 3 is 21”
  OR
- “nine is not prime”

*This item is not graded for spelling or grammar.*
A class is making chains of paper clips for a project.
The table lists the length of each chain in inches.

<table>
<thead>
<tr>
<th>Chain</th>
<th>Length (In)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>36</td>
</tr>
<tr>
<td>B</td>
<td>12</td>
</tr>
<tr>
<td>C</td>
<td>48</td>
</tr>
<tr>
<td>D</td>
<td>24</td>
</tr>
<tr>
<td>E</td>
<td>60</td>
</tr>
</tbody>
</table>

The number line is measured in feet.

Drag each paper clip representing the labeled chain to the number line to show its length in feet. Place the paper clips above the number line.

For this item, a full-credit response (2 point) includes:

- the correct number line as shown below

For partial credit (1 point), a student correctly places at least 3 paper clips.
For this item, a full-credit response (2 points) includes:

- a bar showing the correct number of games won, 14
  AND
- a bar showing the correct number of games lost, 7

For partial credit, a student earns 1 point for every correct value shown by a bar.
Which group of numbers lists factors of both 24 and 36?

A  2, 3, 4, 9
B  2, 3, 8, 12
C  3, 6, 9, 18
D  3, 4, 6, 12

For this item, a full-credit response (1 point) includes:

- option D
Maria measures the lengths of ribbons. She records the lengths on the line plot as shown.

She needs a total of 12 inches of ribbon.

Click three data points to create a combined length of 12 inches.

For this item, a full-credit response (1 point) includes:

- 3 data points that sum to 12 inches

For example,

- $\frac{3}{4}$, 4, and $\frac{2}{4}$
  
  OR

- $4\frac{3}{4}$, $3\frac{2}{4}$, and $3\frac{3}{4}$
Scott is reading a book that has 172 pages. Melanie is reading a book that has three times as many pages as Scott’s book.

How many pages does Melanie’s book have? Select all the equations that represent this problem.

172 ÷ 3 = □
3 × □ = 172

172 × 3 = □
□ ÷ 3 = 172

□ ÷ 172 = 3
172 ÷ □ = 3

For this item, a full-credit response (2 points) includes:

- 172 × 3 = ?
  AND
- ? ÷ 3 = 172
  AND
- ? ÷ 172 = 3

For partial credit (1 point), the student selects 2 correct equations with no incorrect equations.
Marcia read books over the summer. She created the picture graph shown.

**Summer Reading**

<table>
<thead>
<tr>
<th>Month</th>
<th>Books</th>
</tr>
</thead>
<tbody>
<tr>
<td>June</td>
<td>📚📚📚📚📚</td>
</tr>
<tr>
<td>July</td>
<td>📚📚📚</td>
</tr>
<tr>
<td>August</td>
<td>📚📚📚📚📚</td>
</tr>
</tbody>
</table>

= 2 books

Create another picture graph that shows these data with a different key. You may use whole books and half books in your graph.

A. Select the key you will use.

B. New picture graph

For this item, a full-credit response (1 point) includes:

- selecting “4 books”
  AND
- the correct picture graph