Mathematically Connected Communities

PARCC Practice Test Items
Grade 5 Mathematics

Excerpted in fall 2017 from:
- MC² PARCC Practice Test Item Packets-Spring 2017  https://mc2.nmsu.edu/teachers/preparing-for-parcc/
  https://mc2.nmsu.edu/teachers/preparing-for-parcc/
- MC² PARCC Practice Test Item Packets-Spring 2015 https://mc2.nmsu.edu/teachers/preparing-for-parcc/
- Illustrative Mathematics https://www.illustrativemathematics.org/content-standards
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### Difficulty Order (Most to Least)

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MC² Thinking Protocol: PARCC Test Prep Using Mathematical Practice Prompts

Use the MC² Thinking Protocol and follow the process below in working with the PARCC practice test items found in this packet:

1. Choose items from this packet that relate to math concepts studied in the current or previous curriculum units during your math instruction. Each item may be used as a practice item worksheet.
2. Choose a set of Thinking/Writing Prompts below based on the math practice the class is working to develop.
3. Add the prompts to the practice item worksheet or display the prompts for the students to respond to.
4. Continue using the same set of prompts for an extended period of time so children develop competence and confidence in describing their mathematical thinking related to the math practice.

The questions below were intentionally not included on each MC² PARCC practice test item worksheet in this packet. These are intended to help students move beyond “answer getting” to fully making sense of test item questions and their own mathematical thinking.

Thinking/Writing Prompts to Promote Mathematical Practices

Math Practice 1: Make sense of problems and persevere in solving them.
1. What do you know about the problem?
2. What questions do you have?
3. Explain your reasoning or thinking in solving the problem.

Math Practice 3: Construct viable arguments and critique the reasoning of others.
1. What are the assumptions, definitions, and previous knowledge to help in thinking about this problem?
2. What are some possible conjectures that you have about the problem?
3. Explain your mathematical argument so that somebody else can make sense of your thinking.

Math Practice 4: Model with mathematics.
1. What are the important quantities in the problem that are needed to solve it?
2. What mathematical operation(s) or representation(s) will you use to solve the problem?
3. Explain how you know your answer makes sense in the context of the situation.

Math Practice 6: Attend to precision.
1. What are the important units in the problem? (What are we measuring or counting?)
2. What relationship between the units/quantities do you need to know in order to solve the problem?
3. Use appropriate and precise mathematical language, units, labels and computations to clearly describe your mathematical reasoning.
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Pending New PARCC Released Test Items
24. An egg farm packages 264 total cartons of eggs each month. The farm has 3 different sizes of cartons.

- The small carton holds 8 eggs, and \(\frac{1}{6}\) of the total cartons are small.
- The medium carton holds 12 eggs, and \(\frac{2}{3}\) of the total cartons are medium.
- The large carton holds 18 eggs, and the rest of the total cartons are large.

Determine how many of each size of carton is needed each month. Then determine how many eggs are needed to fill the 264 cartons. Show your work or explain your answers.

Enter your answers and your work or explanations in the space provided.
Pending New PARCC Released Test Items
### Difficulty Order | Evidence Statement | Common Core State Standard | Domain | Source
--- | --- | --- | --- | ---
4 | 5.NF.7a | 5.NF.B.7.A | Number & Operations - Fractions | Illustrative Mathematics

## 5.NF Painting a room

**Alignments to Content Standards:** 5.NF.B.7.a

### Task

Kulani is painting his room. He needs $\frac{1}{3}$ of a gallon to paint the whole room. What fraction of a gallon will he need for each of his 4 walls if he uses the same amount of paint on each? Explain your work and draw a picture to support your reasoning.
### Pending New PARCC Released Test Items

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*Pending New PARCC Released Test Items*
Pending New PARCC Released Test Items
27. A teacher drew an area model to find the value of $6,986 \div 8$.

**Teacher’s Model for $6,986 \div 8$**

- Determine the number that each letter in the model represents and explain each of your answers.
- Write the quotient and remainder for $6,986 \div 8$.
- Explain how to use multiplication to check that the quotient is correct. You may show your work in your explanation.

Enter your answers and your explanations in the space provided.
Use the information provided to answer Part A and Part B for question 40.

Tom has a water tank that holds 5 gallons of water.

40. Part A

Tom uses water from a full tank to fill 6 bottles that each hold 16 ounces and a pitcher that holds \( \frac{1}{2} \) gallon.

How many ounces of water are left in the water tank?

Enter your answer in the box.

Part B

Tom drinks 4 pints of water a day.

How many full tanks of water will he drink in 30 days?

Enter your answer in the box.
27. A teacher drew an area model to find the value of $6,986 \div 8$.

![Teacher’s Model for 6,986 ÷ 8](image)

- Determine the number that each letter in the model represents and explain each of your answers.
- Write the quotient and remainder for $6,986 \div 8$.
- Explain how to use multiplication to check that the quotient is correct. You may show your work in your explanation.

Enter your answers and your explanations in the space provided.
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**Pending New PARCC Released Test Items**
15. Greg is volunteering at a track meet. He is in charge of providing the bottled water. Greg knows these facts:

- The track meet will last 3 days.
- There will be 117 athletes, 7 coaches, and 4 judges attending the track meet.
- One case of bottled water contains 24 bottles.

The table shows the number of bottles of water each athlete, coach, and judge will get for each day of the track meet.

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<td>Athlete</td>
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<tr>
<td>Coach</td>
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<tr>
<td>Judge</td>
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What is the **fewest** number of cases of bottled water Greg will need to provide for all the athletes, coaches, and judges at the track meet? Show your work or explain how you found your answer using equations.

Enter your answer and your work or explanation in the space provided.
24. An egg farm packages 264 total cartons of eggs each month. The farm has 3 different sizes of cartons.

- The small carton holds 8 eggs, and \( \frac{1}{6} \) of the total cartons are small.

- The medium carton holds 12 eggs, and \( \frac{2}{3} \) of the total cartons are medium.

- The large carton holds 18 eggs, and the rest of the total cartons are large.

Determine how many of each size of carton is needed each month. Then determine how many eggs are needed to fill the 264 cartons. Show your work or explain your answers.

Enter your answers and your work or explanations in the space provided.
Pending New PARCC Released Test Items
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9. Select the **two** correct statements.

   A. The product of $\frac{3}{5}$ and 4 is greater than 4.

   B. The product of $\frac{3}{5}$ and 4 is less than $\frac{3}{5}$.

   C. The product of $1\frac{1}{2}$ and 2 is greater than $1\frac{1}{2}$.

   D. The product of $1\frac{1}{2}$ and 2 is less than 2.

   E. The product of $\frac{13}{4}$ and $\frac{5}{2}$ is greater than $\frac{13}{4}$.

   F. The product of $\frac{13}{4}$ and $\frac{5}{2}$ is less than $\frac{5}{2}$.
9. **Select the two correct statements.**

**A.** The product of $\frac{3}{5}$ and 4 is greater than 4.

**B.** The product of $\frac{3}{5}$ and 4 is less than $\frac{3}{5}$.

**C.** The product of $1\frac{1}{2}$ and 2 is greater than $1\frac{1}{2}$.

**D.** The product of $1\frac{1}{2}$ and 2 is less than 2.

**E.** The product of $\frac{13}{4}$ and $\frac{5}{2}$ is greater than $\frac{13}{4}$.

**F.** The product of $\frac{13}{4}$ and $\frac{5}{2}$ is less than $\frac{5}{2}$.
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25. **Part A**

Select the **two** equations that are correct when the number 20 is entered in the box.

A. \[ \square \times 85 = 1,700 \]

B. \[ \square \div 4 = 50 \]

C. \[ 1,500 \div \square = 75 \]

D. \[ 120 \times 6 = \square \]

E. \[ \square \times 50 = 100 \]

**Part B**

Select the **two** equations that are correct when the number 200 is entered in the box.

A. \[ \square \times 85 = 17,000 \]

B. \[ \square \div 40 = 50 \]

C. \[ 15,000 \div \square = 75 \]

D. \[ 1,200 \times 6 = \square \]

E. \[ \square \times 50 = 1,000 \]
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5.NBT.A.3.A  
5.NBT.A.3.B  
5.NBT.A.4 | Number & Operations in Base Ten | MC² PARCC Practice Test Item Packets-Spring 2017 |

**Part A**

Enter your answer in the box.

\[6.3 \times 0.1 = \]

**Part B**

Enter your answer in the box.

\[6.3 \div 0.1 = \]
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32. Which **two** conversions are correct?

A. 7 mm = 70 cm  
B. 7 cm = 0.07 m  
C. 7,000 m = 7 km  
D. 0.7 cm = 70 mm  
E. 7 m = 7,000 km
Complete each conversion by dragging and dropping the correct number into each box.

| 7 mm = | cm |
| 7 cm = | m |

\[
\underline{m} = 7 \text{ km}
\]
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<td>Reasoning</td>
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</tr>
</tbody>
</table>

*Pending New PARCC Released Test Items*
39. Which **two** statements about rounding decimals are correct?

A. The number 5.066 rounded to the nearest hundredth is 5.07.
B. The number 5.074 rounded to the nearest hundredth is 5.08.
C. The number 5.117 rounded to the nearest hundredth is 5.10.
D. The number 5.108 rounded to the nearest hundredth is 5.11.
E. The number 5.025 rounded to the nearest hundredth is 5.02.
<table>
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<tbody>
<tr>
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<td>5.NBT.A.4</td>
<td>Number &amp; Operations in Base Ten</td>
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</table>

Drag and drop one number into each box. When you are finished, the number inside each box should match the number below the box when rounded to the nearest hundredth.

5.025  5.079  5.103  5.117  5.066  5.108

5.07  5.08  5.10  5.11
24. An egg farm packages 264 total cartons of eggs each month. The farm has 3 different sizes of cartons.

- The small carton holds 8 eggs, and \( \frac{1}{6} \) of the total cartons are small.
- The medium carton holds 12 eggs, and \( \frac{2}{3} \) of the total cartons are medium.
- The large carton holds 18 eggs, and the rest of the total cartons are large.

Determine how many of each size of carton is needed each month. Then determine how many eggs are needed to fill the 264 cartons. Show your work or explain your answers.

Enter your answers and your work or explanations in the space provided.
37. Jen makes a rectangular banner. It is $\frac{3}{4}$ yard long and $\frac{1}{4}$ yard wide.

What is the area, in square yards, of the banner?

A. $\frac{3}{16}$

B. $\frac{3}{8}$

C. 1

D. 3
38. Which explanation about figures is correct?

A. All rhombuses are parallelograms. Parallelograms have 2 pairs of parallel sides. Therefore, all rhombuses have 2 pairs of parallel sides.

B. All rhombuses are parallelograms. Parallelograms have exactly 1 pair of parallel sides. Therefore, all rhombuses have exactly 1 pair of parallel sides.

C. Only some rhombuses are parallelograms. Parallelograms have 2 pairs of parallel sides. Therefore, only some rhombuses have 2 pairs of parallel sides.

D. Only some rhombuses are parallelograms. Parallelograms have exactly 1 pair of parallel sides. Therefore, only some rhombuses have exactly 1 pair of parallel sides.
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<td>5.Int.2</td>
<td>5.MD.C.5 5.NBT.B.5 5.OA.A.2</td>
<td>Measurement &amp; Data Number &amp; Operations in Base Ten Operations &amp; Algebraic Thinking</td>
<td>MC² PARCC Practice Test Item Packets-Spring 2015</td>
</tr>
</tbody>
</table>

This table shows the three different ways that toy animals are packaged at a factory.

<table>
<thead>
<tr>
<th>Package Type</th>
<th>Amount in the Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bag</td>
<td>36 toy animals</td>
</tr>
<tr>
<td>Box</td>
<td>48 bags</td>
</tr>
<tr>
<td>Crate</td>
<td>18 boxes</td>
</tr>
</tbody>
</table>

Part A
What is the total number of toy animals in one crate?
Enter your answer in the box.

Part B
One bag of toy animals weighs 12 ounces. What is the total weight, in ounces, of the bags of toy animals in one crate?
Enter your answer in the box.
<table>
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</thead>
<tbody>
<tr>
<td>25</td>
<td>5.NBT.1</td>
<td>5.NBT.A.1</td>
<td>Number &amp; Operations in Base Ten</td>
<td>MC² PARCC Practice Test Item Packets-Spring 2017</td>
</tr>
</tbody>
</table>

5. Which statement correctly compares two values?

A. The value of the 6 in 26.495 is \(\frac{1}{10}\) the value of the 6 in 17.64.

B. The value of the 6 in 26.495 is 10 times the value of the 6 in 17.64.

C. The value of the 6 in 26.495 is \(\frac{1}{100}\) the value of the 6 in 17.64.

D. The value of the 6 in 26.495 is 100 times the value of the 6 in 17.64.
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>25</td>
<td>5.NBT.1</td>
<td>5.NBT.A.1</td>
<td>Number &amp; Operations in Base Ten</td>
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</tr>
</tbody>
</table>

For each sentence, select the option from the drop-down menu that correctly compares the values.

The value of the 6 in 26.495 is \[
\begin{align*}
\text{Choose...}
\end{align*}
\]
the value of the 6 in 17.64.

- 1/10
- 10 times
- 1/100
- 100 times

The value of the 3 in 0.931 is \[
\begin{align*}
\text{Choose...}
\end{align*}
\]
the value of the 3 in 0.384.

- 1/10
- 10 times
- 1/100
- 100 times
5.NF Finding Common Denominators to Add

Alignments to Content Standards: 5.NF.A.1

Task

a. To add fractions, we usually first find a common denominator.
   i. Find two different common denominators for $\frac{1}{3}$ and $\frac{1}{15}$.
      
   ii. Use each common denominator to find the value of $\frac{1}{3} + \frac{1}{15}$.

b. Find $\frac{3}{4} + \frac{1}{5}$. Draw a picture that shows your solution.

c. Find $\frac{14}{8} + \frac{15}{12}$.
13. Which expression matches the statement, “the sum of 2 and 4 subtracted from 9”?

A. $2 + 9 - 4$

B. $9 - 2 + 4$

C. $9 - (2 + 4)$

D. $(2 + 4) - 9$
Drag and drop the expression that matches each statement into the correct box. Each expression may be used more than once or not at all.

\[ 2 + 4 \quad 9 - 2 + 4 \quad 9 - (2 + 4) \]

the sum of 2 and 4 \hspace{1cm} \text{add 2 and 4, then} \hspace{1cm} \text{subtract 2 from 9.}

subtracted from 9 \hspace{1cm} \text{subtract 9} \hspace{1cm} \text{then add 4}
17. Len walks $\frac{3}{10}$ mile in the morning to school. He walks $\frac{2}{5}$ mile in the afternoon to a friend’s house.

Len says that he walks a total of $\frac{5}{15}$ mile in the morning and afternoon.

Which **two** statements are true?

**A.** Since $\frac{3}{10}$ plus $\frac{2}{5}$ is $\frac{5}{15}$, the total of $\frac{5}{15}$ is reasonable.

**B.** Since $\frac{5}{15}$ is less than $\frac{2}{5}$, the total of $\frac{5}{15}$ is not reasonable.

**C.** The fractions $\frac{5}{15}$, $\frac{3}{10}$, and $\frac{2}{5}$ are all less than $\frac{1}{2}$, so the total of $\frac{5}{15}$ is reasonable.

**D.** The fraction $\frac{5}{15}$ is $\frac{1}{3}$, and $\frac{1}{3}$ is greater than $\frac{3}{10}$. Since $\frac{5}{15}$ is greater than one of the addends, the total of $\frac{5}{15}$ is reasonable.

**E.** The fractions $\frac{3}{10}$ and $\frac{2}{5}$ are each greater than $\frac{1}{4}$, so the total must be greater than $\frac{1}{2}$. The fraction $\frac{5}{15}$ is less than $\frac{1}{2}$, so the total of $\frac{5}{15}$ is not reasonable.
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36. On Saturday, Craig rode his bike \( \frac{5}{8} \) of a mile. On Sunday, he rode his bike \( \frac{1}{2} \) of a mile. Craig added \( \frac{5}{8} \) and \( \frac{1}{2} \) to find the total distance, in miles, he rode his bike on the two days. Craig said \( \frac{5}{8} + \frac{1}{2} = \frac{6}{10} \) and plotted \( \frac{6}{10} \) on this number line.

- Explain why Craig’s answer is not reasonable.
- Find the total distance, in miles, Craig rode on his bike on Saturday and Sunday.
- Explain how to use the number line to show your answer is correct.

Enter your answer and explanations in the space provided.
Pending New PARCC Released Test Items
12. Which figure is always a rectangle?
   
   A. square
   
   B. rhombus
   
   C. quadrilateral
   
   D. parallelogram
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<td>Geometry</td>
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</tbody>
</table>

Drag and drop the names to complete the diagram that shows the relationship among the figures listed. Each category will be used only once.

```
<table>
<thead>
<tr>
<th>rhombuses</th>
<th>rectangles</th>
</tr>
</thead>
<tbody>
<tr>
<td>parallelograms</td>
<td>quadrilaterals</td>
</tr>
</tbody>
</table>
```

```
are always

are always

are always

are always

squares
```
36. On Saturday, Craig rode his bike \( \frac{5}{8} \) of a mile. On Sunday, he rode his bike \( \frac{1}{2} \) of a mile. Craig added \( \frac{5}{8} \) and \( \frac{1}{2} \) to find the total distance, in miles, he rode his bike on the two days. Craig said \( \frac{5}{8} + \frac{1}{2} = \frac{6}{10} \) and plotted \( \frac{6}{10} \) on this number line.

- Explain why Craig’s answer is not reasonable.
- Find the total distance, in miles, Craig rode on his bike on Saturday and Sunday.
- Explain how to use the number line to show your answer is correct.

Enter your answer and explanations in the space provided.
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</table>

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<td>5.NBT.A.2 5.NBT.B.5 5.NBT.B.7</td>
<td>Number &amp; Operations in Base Ten</td>
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</table>

25. **Part A**

Select the two equations that are correct when the number 20 is entered in the box.

A. $\square \times 85 = 1,700$

B. $\square \div 4 = 50$

C. $1,500 \div \square = 75$

D. $120 \times 6 = \square$

E. $\square \times 50 = 100$

**Part B**

Select the two equations that are correct when the number 200 is entered in the box.

A. $\square \times 85 = 17,000$

B. $\square \div 40 = 50$

C. $15,000 \div \square = 75$

D. $1,200 \times 6 = \square$

E. $\square \times 50 = 1,000$
10. Isabel lives $\frac{3}{4}$ mile from school. Janet lives $\frac{2}{3}$ mile from school. 
How much farther, in miles, does Isabel live from school than Janet?

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

B. $\frac{1}{3}$

C. $\frac{1}{7}$

D. $\frac{1}{12}$
36. On Saturday, Craig rode his bike \( \frac{5}{8} \) of a mile. On Sunday, he rode his bike \( \frac{1}{2} \) of a mile. Craig added \( \frac{5}{8} \) and \( \frac{1}{2} \) to find the total distance, in miles, he rode his bike on the two days. Craig said \( \frac{5}{8} + \frac{1}{2} = \frac{6}{10} \) and plotted \( \frac{6}{10} \) on this number line.

![Number line with point \( \frac{6}{10} \) marked]

- Explain why Craig’s answer is not reasonable.
- Find the total distance, in miles, Craig rode on his bike on Saturday and Sunday.
- Explain how to use the number line to show your answer is correct.

Enter your answer and explanations in the space provided.
Use the information provided to answer Part A and Part B for question 18.

There are two tanks at the aquarium, Tank A and Tank B. Each tank has two sections.

18. **Part A**

   The volume of one section of Tank A is 24 cubic feet. The volume of the other section of Tank A is 96 cubic feet.

   What is the total volume, in cubic feet, of Tank A?

   A. 4
   
   B. 72
   
   C. 120
   
   D. 2,304

**Part B**

   Tank B has the same volume as Tank A.

   The volume of one section of Tank B is 45 cubic feet. What is the volume, in cubic feet, of the other section of Tank B?

   Enter your answer in the box.
Use the information provided to answer Part A and Part B for question 22.

For a family gathering, Brittany made 5 meat loaves using 9 pounds of ground beef. She also made 14 hamburgers using 4 pounds of ground beef.

**22. Part A**

Each meat loaf was made with the same amount of ground beef.

Which of these is closest to the amount of ground beef in each meat loaf?

A. \( \frac{1}{2} \) pound

B. 1 pound

C. \( 1\frac{1}{2} \) pounds

D. 2 pounds

**Part B**

Each hamburger was made with the same amount of ground beef.

Which of these is closest to the amount of ground beef in each hamburger?

A. \( \frac{1}{2} \) pound

B. \( \frac{1}{4} \) pound

C. \( \frac{3}{4} \) pound

D. 1 pound
Emma has a board that is 5 feet long. She cuts the board into 6 equal pieces.

Which equation shows how to find the length, in feet, of each piece of the board?

- A. $5 \times 6 = 30$
- B. $6 - 5 = 1$
- C. $6 \div 5 = 1 \frac{1}{5}$
- D. $5 \div 6 = \frac{5}{6}$
Use the information provided to answer Part A and Part B for question 33.

Nick measured two crickets in science class. The lengths of the two crickets are shown.

- Cricket A: $\frac{3}{8}$ inch
- Cricket B: $\frac{5}{8}$ inch

The science teacher asked Nick to compare the length of each cricket to $\frac{1}{2}$ inch.

33. Part A

Nick claims that the length of each cricket is greater than $\frac{1}{2}$ because the numerator of each cricket length is greater than the numerator in $\frac{1}{2}$.

Compare $\frac{1}{2}$ inch to the length of each cricket using the $>$, $<$, or $=$ symbol. Then explain whether Nick’s reasoning is correct.

Enter your comparisons and your explanation in the space provided.

Part B

Nick recorded the distance each cricket jumped.

- Distance for cricket A: $1 \frac{3}{4}$ feet
- Distance for cricket B: $3 \frac{2}{4}$ feet

Nick claims that cricket B jumped $2 \frac{1}{4}$ feet farther than cricket A because the difference between the whole numbers is 2 and the difference between the numerators is 1.

- Explain why Nick’s reasoning is incorrect.
- What is the correct difference, in feet, between the distance cricket A jumped and the distance cricket B jumped?

Enter your explanation and your answer in the space provided.
28. Enter your answer in the box.

0.35 \times 1.5 =

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39 | 5.Int.1 | 5.NBT.B.5 | Number & Operations in Base Ten | MC² PARCC Practice Test Item Packets-Spring 2015

**Part A**
A company sells phones for $515.00 each.
What is the total amount of money the company earns from selling 856 phones?
Enter your answer in the box.

$\underline{\hspace{2cm}}$

**Part B**
The parts to build these phones cost $189.00 for each phone.
What is the total cost of parts to build 856 phones?
Enter your answer in the box.

$\underline{\hspace{2cm}}$
**5.NBT.1 Multiplying Decimals by 10**

**Task**

a. Explain why $0.4 \times 10 = 4$.

b. Explain why $3.4 \times 10 = 34$.

Draw pictures to illustrate your explanations.
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</table>

21. Kurt drew a rectangular maze with a length of \( \frac{3}{4} \) foot and a width of \( \frac{5}{12} \) foot. What is the area, in square feet, of Kurt's maze?

A. \( \frac{15}{48} \)

B. \( \frac{8}{16} \)

C. \( \frac{20}{36} \)

D. \( \frac{15}{16} \)
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</table>

Kurt drew a rectangular maze with a length of \( \frac{3}{4} \) foot and a width of \( \frac{5}{12} \) foot.

What is the area, in square feet, of Kurt's maze? Enter your answer in the space provided. Enter only your fraction.
16. Which of these are equal to 83.041?

Select the two correct answers.

A. eighty-three and forty-one tenths

B. $8 \times 10 + 3 \times 1 + 4 \times \frac{1}{10} + 1 \times \frac{1}{100}$

C. eighty-three and forty-one hundredths

D. $8 \times 10 + 3 \times 1 + 4 \times \frac{1}{100} + 1 \times \frac{1}{1,000}$

E. eighty-three and forty-one thousandths
29. Jim uses ribbon to make bookmarks. Jim has 9 feet of ribbon. He uses $\frac{1}{3}$ foot of ribbon to make each bookmark.

What is the total number of bookmarks Jim makes with all 9 feet of ribbon?
Enter your answer in the box.
<table>
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<td>5.NF.7c</td>
<td>5.NF.B.7.C</td>
<td>Number &amp; Operations - Fractions</td>
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</tbody>
</table>

Mr. Edwards is making sandwiches. He has 4 pounds of cheese. He puts $\frac{3}{8}$ pound of cheese in each sandwich.

What is the total number of sandwiches Mr. Edwards made using all 4 pounds of cheese?
Enter your answer in the box.

sandwiches
<table>
<thead>
<tr>
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<td>Number &amp; Operations - Fractions</td>
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</tbody>
</table>

26. Solve.

\[
\frac{3}{4} + \frac{4}{5} - \frac{7}{10} =
\]

A. \(\frac{7}{20}\)

B. \(\frac{14}{20}\)

C. \(\frac{17}{20}\)

D. \(\frac{21}{20}\)
**5.NF Origami Stars**

Alignments to Content Standards: 5.NF.B.7.b

**Task**

Avery and Megan are cutting paper to make origami stars. They need \( \frac{1}{5} \) of a sheet of paper in order to make each star. If they have 6 sheets of paper, how many stars can they make? Explain your work and draw a picture to support your reasoning.
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6. Select the **three** statements that correctly describe the coordinate system.

A. The $x$- and $y$-axes intersect at 10.
B. The $x$- and $y$-axes intersect at the origin.
C. The $x$- and $y$-axes are parallel number lines.
D. The $x$- and $y$-axes are perpendicular number lines.
E. The $x$- and $y$-coordinates are used to locate points on a coordinate plane.
23. Select the three statements that correctly describe the point plotted on the coordinate plane.

A. The point is located at the ordered pair (4, 6).
B. The point is located at the ordered pair (6, 4).
C. The x-coordinate is 6 and the y-coordinate is 4.
D. The x-coordinate is 4 and the y-coordinate is 6.
E. The point is 4 units to the right of the origin on the x-axis and 6 units up from the origin on the y-axis.
F. The point is 6 units to the right of the origin on the x-axis and 4 units up from the origin on the y-axis.
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<td>Geometry</td>
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</table>

Graph points $A$, $B$, and $C$ on the coordinate plane. Point $A$ should be located at $(4,6)$, point $B$ should be located at $(6,4)$, and point $C$ should be located at $(3,0)$. Select the “Point A” button and plot the point. Select the “Point B” button and plot the point. Select the “Point C” button and plot the point. Be sure to graph all three points.
27. A teacher drew an area model to find the value of $6,986 \div 8$.

Teacher's Model for $6,986 \div 8$

```
\[
\begin{array}{ccc}
800 & N & P \\
8 & M & 560 \\
\end{array}
\]
```

Not to scale

- Determine the number that each letter in the model represents and explain each of your answers.
- Write the quotient and remainder for $6,986 \div 8$.
- Explain how to use multiplication to check that the quotient is correct. You may show your work in your explanation.

Enter your answers and your explanations in the space provided.
31. Enter your answer in the box.
   \[1,534 \div 26 =\]
Use the information provided to answer Part A and Part B for question 14.

Diana works at a clothing store. She sold $\frac{1}{5}$ of the total number of green shirts on Monday and $\frac{3}{12}$ of the total number of green shirts on Tuesday.

14. Part A

What fraction of green shirts did Diana sell on Monday and Tuesday?

A. $\frac{8}{13}$

B. $\frac{4}{17}$

C. $\frac{5}{36}$

D. $\frac{27}{60}$

Part B

Diana sold $\frac{2}{15}$ of the total number of green shirts on Wednesday. What is the difference in the fraction of the total number of green shirts that were sold on Tuesday and Wednesday?

A. $\frac{7}{60}$

B. $\frac{5}{27}$

C. $\frac{1}{3}$

D. $\frac{1}{12}$
2. An expression is shown.

\[ \frac{5}{6} + \frac{3}{12} \]

Which expressions have like denominators that could be used as a next step to add the two fractions?

Select the two correct answers.

A. \( \frac{5}{6} + \frac{1}{4} \)

B. \( \frac{5}{6} + \frac{3}{6} \)

C. \( \frac{10}{12} + \frac{3}{12} \)

D. \( \frac{5}{12} + \frac{6}{12} \)

E. \( \frac{5}{12} + \frac{6}{24} \)

F. \( \frac{20}{24} + \frac{6}{24} \)
<table>
<thead>
<tr>
<th>Difficulty Order</th>
<th>Evidence Statement</th>
<th>Common Core State Standard</th>
<th>Domain</th>
<th>Source</th>
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</thead>
<tbody>
<tr>
<td>49</td>
<td>5.NF.1-1</td>
<td>5.NF.A.1</td>
<td>Number &amp; Operations - Fractions</td>
<td>MC² PARCC Practice Test Item Packets-Spring 2017</td>
</tr>
</tbody>
</table>

What fraction completes the equation using a like denominator when adding $\frac{1}{3} + \frac{3}{6}$?

Drag and drop each correct number into the appropriate box.

$$\frac{1}{3} + \frac{3}{6} = \square + \frac{3}{6}$$

1  2  4  6  12  18
24. An egg farm packages 264 total cartons of eggs each month. The farm has 3 different sizes of cartons.

- The small carton holds 8 eggs, and \( \frac{1}{6} \) of the total cartons are small.

- The medium carton holds 12 eggs, and \( \frac{2}{3} \) of the total cartons are medium.

- The large carton holds 18 eggs, and the rest of the total cartons are large.

Determine how many of each size of carton is needed each month. Then determine how many eggs are needed to fill the 264 cartons. Show your work or explain your answers.

Enter your answers and your work or explanations in the space provided.
<table>
<thead>
<tr>
<th>Difficulty Order</th>
<th>Evidence Statement</th>
<th>Common Core State Standard</th>
<th>Domain</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>51</td>
<td>5.OA.3</td>
<td>5.OA.B.3</td>
<td>Operations &amp; Algebraic Thinking</td>
<td>MC² PARCC Practice Test Item Packets-Spring 2015</td>
</tr>
</tbody>
</table>

Which statement about the corresponding terms in both Pattern A and Pattern B is always true?

Pattern A: 0, 5, 10, 15, 20, 25, 30
Pattern B: 0, 10, 20, 30, 40, 50, 60

- A. Each term in Pattern A is 2 times the corresponding term in Pattern B.
- B. Each term in Pattern A is \( \frac{1}{2} \) times the corresponding term in Pattern B.
- C. Each term in Pattern A is 5 less than the corresponding term in Pattern B.
- D. Each term in Pattern A is 10 less than the corresponding term in Pattern B.
35. A cereal box has a height of 32 centimeters. It has a base with an area of 160 square centimeters.

What is the volume, in cubic centimeters, of the cereal box?

Enter your answer in the box.
7. What is the volume of the rectangular prism in cubic units?

Enter your answer in the box.
The right rectangular prism shown is made from cubes. Each cube is 1 cubic unit.

What is the volume, in cubic units, of the right rectangular prism?

Enter your answer in the box.

____ cubic units
Select from the drop-down menus to correctly complete each comparison.

4.408 Choose... four and forty-eight thousandths

<
=
>

six hundred ninety-one and five hundredths Choose...

6 \times 100 + 9 \times 10 + 1 \times 1 + 8 \times \frac{1}{1,000}

<
=
>
15. Greg is volunteering at a track meet. He is in charge of providing the bottled water. Greg knows these facts:

- The track meet will last 3 days.
- There will be 117 athletes, 7 coaches, and 4 judges attending the track meet.
- One case of bottled water contains 24 bottles.

The table shows the number of bottles of water each athlete, coach, and judge will get for each day of the track meet.

<table>
<thead>
<tr>
<th>Person Attending</th>
<th>Number of Bottles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Athlete</td>
<td>4</td>
</tr>
<tr>
<td>Coach</td>
<td>3</td>
</tr>
<tr>
<td>Judge</td>
<td>2</td>
</tr>
</tbody>
</table>

What is the fewest number of cases of bottled water Greg will need to provide for all the athletes, coaches, and judges at the track meet? Show your work or explain how you found your answer using equations.

Enter your answer and your work or explanation in the space provided.
19. Enter your answer in the box.

\[ 625 \times 847 = \]
34. Solve.

\[
\frac{5}{6} \times \frac{9}{10} =
\]

A. \(\frac{14}{16}\)

B. \(\frac{15}{30}\)

C. \(\frac{45}{60}\)

D. \(\frac{50}{54}\)
Use the information provided to answer Part A and Part B for question 30.

Mia is playing several rounds of a word game. Each coordinate pair shows the number of a round and Mia’s score for that round. She is keeping track of these coordinate pairs on a coordinate plane.

- Round 1: (1, 3)
- Round 2: (2, 6)
- Round 3: (3, 3)

### 30. Part A

Which coordinate plane correctly shows Mia’s scores for the first three rounds of play?

![Graph A](image1.png)

- **A.**

![Graph B](image2.png)

- **B.**

![Graph C](image3.png)

- **C.**

![Graph D](image4.png)

- **D.**

### Part B

In round 4, Mia scores the same number of points as in rounds 2 and 3 combined.

What is the coordinate pair that represents Mia’s score for round 4?

- **A.** (4, 5)
- **B.** (9, 4)
- **C.** (5, 4)
- **D.** (4, 9)
3. Enter your answer in the box.

\[5.63 + 14.37 =\]
20. Which expression is equal to $\frac{7}{8}$?

A. $8 - 7$

B. $7 \times 8$

C. $\frac{8}{7}$

D. $7 + 8$
### 5.OA Comparing Products

**Alignments to Content Standards:** 5.OA.A.2

**Task**

Leo and Silvia are looking at the following problem:

How does the product of $60 \times 225$ compare to the product of $30 \times 225$?

Silvia says she can compare these products without multiplying the numbers out. Explain how she might do this. Draw pictures to illustrate your explanation.
<table>
<thead>
<tr>
<th>Difficulty Order</th>
<th>Evidence Statement</th>
<th>Common Core State Standard</th>
<th>Domain</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>62</td>
<td>5.OA.1</td>
<td>5.OA.A.1</td>
<td>Number &amp; Operations in Base Ten</td>
<td>MC² PARCC Practice Test Item Packets-Spring 2015</td>
</tr>
</tbody>
</table>

Enter your answer in the box.

$$3 \times (8 + 16) \div 4 = \boxed{?}$$
User’s Guide

To support New Mexico educators in preparing students for the Spring 2018 PARCC Assessment, Mathematically Connected Communities (MC²) has again compiled Practice Test Item Packets posted on the MC² website. Each packet is organized in order of difficulty (most to least) based on the Spring 2017 Evidence Statement Analysis at the cross-state level used for all reports. Each grade-level/subject analysis contains a graph (see sample below) representing the following data:

- Average percent correct for each item represented by cross-state (aggregation of all states in PARCC consortium), state, district, and for the school report, at school level (see legend below)
- Evidence Statements are located along the bottom and left blank on the district/school report if not tested in that particular location (see below)

Each page contains only one problem and identifies the following for that item:

**Difficulty Order** The practice test items are presented in order from most to least difficult based on the Spring 2017 Evidence Statement Analysis at the cross-state level used for all reports. Since the harder problems are found at the beginning of the document, teachers may want to start with the easier items at the end.
Evidence Statements

Describe the knowledge and skills that the assessment item/task elicits from students and are derived from the Common Core State Standards for Mathematics (CCSS-M). Evidence Statements for grades 3 through 8 will begin with the grade number. High School Evidence Statements begin with “HS” or with the label for a conceptual category. Numbers at the end of Integrated Evidence Statements and those focused on Reasoning and Modeling are added for assessment clarification and tracking purposes. Evidence Statement documents are available at: http://parcc-assessment.org/assessments/test-design/mathematics/math-test-specifications-documents

An Evidence Statement might:

1. **Use exact language as the CCSS-M.** For example, Evidence Statement 8.EE.1 uses the exact language as standard 8.EE.1 *Know and apply the properties of integer exponents to generate equivalent numerical expressions.* For example, $32 \times 3-5 = 3-3 = 1/33 = 1/27$.

2. **Be derived by focusing on specific parts of a standard.** For example, CCSS-M 8.F.5 *Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally* was split into the following two Evidence Statements:
   - 8.F.5.1 *Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear).*
   - 8.F.5.2 *Sketch a graph that exhibits qualitative features of a function that has been described verbally.*

Together these two evidence statements are CCSS-M 8.F.5.

3. **Be integrative (Int).** Integrative Evidence Statements allow for the testing of more than one of the Common Core Standards and can be integrated across all content within a grade/course, all standards in a high school conceptual category, all standards in a domain, or all standards in a cluster. For example:
   - **Grade/Course–4.Int.2** (Integrated across Grade 4)
   - **Conceptual Category–F.Int.1** (Integrated across the Functions Conceptual Category)
   - **Domain–4.NBT.Int.1** (Integrated across the Number and Operations in Base Ten Domain)
   - **Cluster–3.NF.A.Int.1** (Integrated across the Number and Operations–Fractions Domain, Cluster A)

4. **Focus on mathematical reasoning.** A Reasoning Evidence Statement (keyed with C as per PARCC Claims Structure, see pg. 4) will state the type of reasoning that an item/task will require and content scope from the CCSS-M that the item/task will require students to reason about. Such as, Evidence Statement 3.C.2
   - Type of Reasoning: *Base explanations/reasoning on the relationship between addition and subtraction or the relationship between multiplication and division.*
   - Content Scope: Knowledge and skills are articulated in 3.OA.6

When the focus is on reasoning, the Evidence Statement may also require the student to reason about *securely held knowledge* (SHK-see pg. 4) from a previous grade.

5. **Focus on mathematical modeling.** A Modeling Evidence Statement (keyed with D as per PARCC Claims Structure, see pg. 4) will state the type of modeling that an item/task will require and the content scope from the CCSS-M that the item/task will require students to model about.

For example, Evidence Statement HS.D.5:
   - Type of Modeling: Given an equation or system of equations, reason about the number or nature of the solutions.
   - Content Scope: A-REI.11, involving any of the function types measured in the standards.

Evidence Statement 4.D.2 below is of an example in which an item/task aligned to the evidence statement will require the student to model on grade level (OGL), using *securely held knowledge* from a previous grade.
   - Type of Modeling: Solve multi-step contextual problems with degree of difficulty appropriate to Gr. 4
   - Securely Held Knowledge: requiring application of knowledge and skills articulated in 3.OA.A, 3.OA.8, 3.NBT, and/or 3.MD.
Sub-Claim C (expressing mathematical reasoning) and Sub-Claim D (modeling/application) in the PARCC Claims Structure are not explicitly found in the CCSS-M as domains but are included in the Mathematical Practices.

An Evidence Statement focusing on Reasoning or Modeling will not indicate a specific standard in the Common Core column because these are not explicitly found in the CCSS-M as a domain. Instead it will indicate:

- **OGL-On Grade Level**
- **Securely Held Knowledge (SHK)**-Ability to flexibly apply what one already knows to a non-routine or complex problem. For example, modeling is a sophisticated practice. This means that modeling and other complex tasks will naturally draw upon securely held knowledge and skills. Some tasks may demand flexible application of content knowledge first gained in previous grades to solve complex problems. Examples of standards which refer to securely held knowledge begin with the words *Apply and Extend.*

**Domains**
- Operations & Algebraic Thinking (OA)
- Number & Operations in Base Ten (NBT)
- Number & Operations-Fractions (NF)
- Measurement & Data (MD)
- Geometry

**Sources**
Identifies where the practice test items were excerpted from (e.g., MC2 PARCC Practice Test Item Packets; Illustrative Mathematics)
For more information, email mc2@nmsu.edu

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Participating School Districts’ Cost Share

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