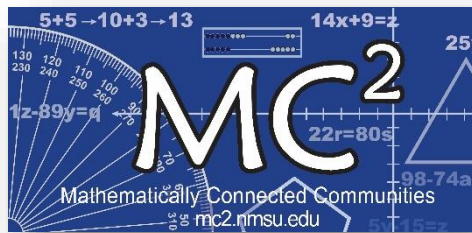


Mathematically Connected Communities



PARCC Practice Test Items Grade 4 Mathematics

Excerpted from:

- MC² PARCC Practice Test Item Packets-Preparing for Spring 2017
<https://mc2.nmsu.edu/teachers/preparing-for-parcc/>
- MC² PARCC Practice Test Item Packets-Preparing for Spring 2015
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- PARCC Released Items-Spring 2017
https://parcc-assessment.org/released-items/?fwp_subject_facet=mathematics
- PARCC Grade 4 Computer-Based Math Practice Tests
<https://parcc.pearson.com/practice-tests/math/>

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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.



Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
1	4.G.2	4.G.A.2	Geometry	MC ² PARCC Practice Test Item Packets-Preparing for Spring 2017

38. Which **three** shapes appear to have at least two parallel sides?

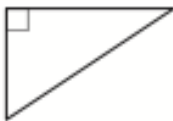
A.



B.



C.



D.


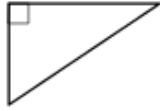



E.



Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
1	4.G.2	4.G.A.2	Geometry	MC ² PARCC Practice Test Item Packets-Preparing for Spring 2017

For each figure pictured in the table, select the box for any statement that describes the figure. You may select more than one box for each figure.

	Appears to have at least 2 parallel sides	Has at least 2 perpendicular sides
	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
2	4.C.2	OGL	Reasoning	PARCC Released Items Spring 2017

28.

When 713 is divided by 7, the remainder is 6. Use multiplication to explain why this is true.

Enter your explanation in the space provided.



▼ Math symbols

+	-	×	÷
$\frac{\square}{\square}$	$\frac{\square}{\square}$	(.)	[]
=	<	>	≠
\$	°	?	

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
3	4.MD.2-1	4.MD.A.2	Measurement & Data	Illustrative Mathematics

4.MD Margie Buys Apples

Margie bought 3 apples that cost 50 cents each. She paid with a five-dollar bill. How much change did Margie receive?



4.MD Margie Buys Apples

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Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
3	4.MD.2-1	4.MD.A.2	Measurement & Data	PARCC Released Items Spring 2017

29.

A restaurant placed a 2-quart pitcher of water on each of 76 tables. The water was served from a 50-gallon container.

How many quarts of water remained in the 50-gallon container after all the pitchers were filled?
(4 quarts = 1 gallon)

Enter your answer in the box.

Difficulty Order	Evidence Statement	Common Core State Standards	Domains	Source
4	4.C.5-5	OGL	Reasoning	PARCC Computer-Based Practice Test, Unit 1

Part A

Alex ran 0.5 mile.

Using a denominator of 10, what is the fractional equivalent of this distance, in miles?

Enter your answer in the box.

$\frac{\square}{10}$

←
→
🗑️

+	-	×	÷	$\frac{\square}{\square}$	$\frac{\square}{\square}$
=	<	>	(-)	·	\$

Part B

Christy ran $\frac{4}{10}$ mile on Monday and $\frac{7}{100}$ mile on Tuesday. She said that she ran a total of $\frac{47}{100}$ mile.

Christy told Alex that she ran a greater distance than he ran, because 47 is more than 5.

- Identify the incorrect reasoning in Christy's statement.
- Explain how Christy can correct her reasoning.
- Use $>$, $<$, or $=$ to give a correct comparison between the distances that Alex and Christy ran.

Enter the incorrect reasoning, your explanation, and the correct comparison in the space provided.

←
→
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▼ Math symbols

+	-	×	÷
$\frac{\square}{\square}$	$\frac{\square}{\square}$	(-)	·
=	<	>	≠
\$	°	?	

Difficulty Order	Evidence Statement	Common Core State Standards	Domains	Source
5	4.C.1-2	OGL	Reasoning	

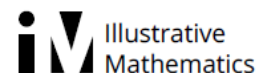
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Difficulty Order	Evidence Statement	Common Core State Standards	Domain	Source
6	4.C.6-2	OGL	Reasoning	

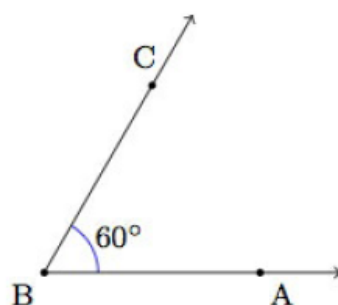
Pending New PARCC Released Test Items

Difficulty Order	Evidence Statement	Common Core State Standards	Domain	Source
7	4.G.1	4.G.A.1	Geometry	Illustrative Mathematics

4.MD,G Measuring Angles



a. Draw an angle that measures 60 degrees like the one shown here:



b. Draw another angle that measures 25 degrees. It should have the same vertex and share side \overrightarrow{BA} .

c. How many angles are there in the figure you drew? What are their measures?

d. Make a copy of your 60 degree angle. Draw a different angle that measures 25 degrees and has the same vertex and also shares side \overrightarrow{BA} .

e. How many angles are there in the figure you drew? What are their measures?



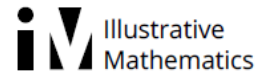
4.MD,G Measuring Angles
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Difficulty Order	Evidence Statement	Common Core State Standards	Domains	Source
8	4.C.7-2	OGL	Reasoning	

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Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
9	4.MD.4-2	4.MD.B.4	Measurement & Data	Illustrative Mathematics

4.MD, 5.MD Button Diameters



- With a partner or group, gather a handful of round buttons from a diverse collection, and use a ruler to measure the diameter of each button to the nearest eighth-inch.
- Make a line plot of button diameters, marking your scale in eighth-inch increments.
- What is the most common diameter in your collection? How does that compare with the collection from another group?
- Now measure the diameters of these same buttons to the nearest quarter-inch.
- Make a line plot of button diameters, marking your scale in quarter-inch increments.
- Describe the differences between the two line plots you created. Which one gives you more information? Which one is easier to read?



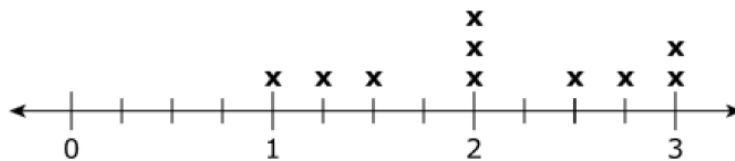
4.MD, 5.MD Button Diameters
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Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
9	4.MD.4-2	4.MD.B.4	Measurement & Data	PARCC Released Items Spring 2017

1.

Leonard measures the length of his used crayons. The lengths, in inches, of the crayons are shown on the line plot.

Crayon Lengths (inches)



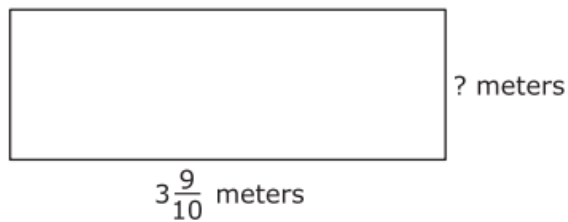
Leonard lines the crayons up end to end. What is the total length, in inches, of the line of crayons?

- A. $\frac{56}{4}$ inches
- B. $\frac{84}{4}$ inches
- C. 56 inches
- D. 84 inches

Difficulty Order	Evidence Statement	Common Core State Standard	Domains	Source
10	4.Int.6	4.MD.A.3 4.NF.B.3	Measurement & Data Number & Operations- Fractions	MC ² PARCC Practice Test Item Packets-Preparing for Spring 2017

Use the information provided to answer Part A and Part B for question 20.

The model shows a hallway in Clark's house.



20. Part A

The perimeter of the hallway is $10\frac{4}{10}$ meters.

What is the width, in meters, of the hallway?

- A. $1\frac{3}{10}$
- B. $2\frac{6}{10}$
- C. $6\frac{5}{10}$
- D. $7\frac{5}{10}$

Part B

Clark's family adds a closet that shortens the length of the hallway by

$\frac{6}{10}$ meter.

What is the new perimeter, in meters, of the hallway?

- A. $3\frac{3}{10}$
- B. $6\frac{6}{10}$
- C. $9\frac{2}{10}$
- D. $9\frac{8}{10}$

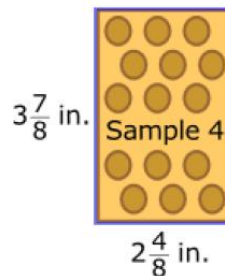
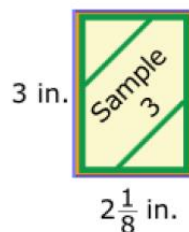
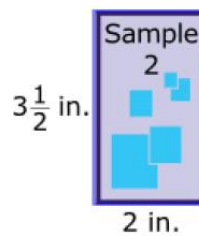
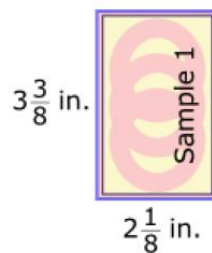
Difficulty Order	Evidence Statement	Common Core State Standard	Domains	Source
10	4.Int.6	4.MD.A.3 4.NF.B.3	Measurement & Data Number & Operations-Fractions	PARCC Released Items Spring 2017

17.

Part A

Company K makes key cards that can be used to open doors instead of using keys. Company K is reviewing samples of a rectangular shape for a new key card. They want the new key card to have a perimeter of 11 inches (in.).

Select the **two** key card samples that have a perimeter of 11 inches.



Part B

Company K decides to make the length of the key card $2\frac{3}{6}$ inches with a perimeter of 11 inches.

What is the width, in inches, of the key card?

Enter your answer in the box.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
11	4.C.5-2	OGL	Reasoning	

Pending New PARCC Released Test Items

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
12	4.MD.1	4.MD.A.1	Measurement & Data	MC ² PARCC Practice Test Item Packets-Preparing for Spring 2017

35. The length of a desktop is 4 feet. How many inches is the length of the desktop?

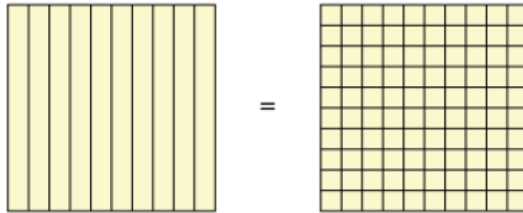
Enter your answer in the box.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
13	4.C.4-5	OGL	Reasoning	PARCC Released Items Spring 2017

22.

Part A

Write a fraction with a denominator of 100 that is equivalent to $\frac{4}{10}$. Explain how the model can be used to show both fractions are equivalent.



Enter your answer and your explanation in the space provided.



▼ Math symbols

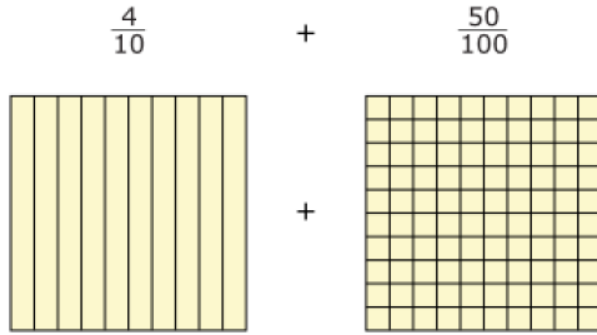
+	-	×	÷
$\frac{\square}{\square}$	$\frac{\square}{\square}$	(·)	[]
=	<	>	≠
\$	°	?	

Continued on next page.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
13	4.C.4-5	OGL	Reasoning	PARCC Released Items Spring 2017

Part B

Find the sum of the fractions. Explain how you could use the model to solve the problem.



Enter your answer and your explanation in the space provided.



▼ Math symbols

+	-	×	÷
$\frac{\square}{\square}$	$\frac{\square}{\square}$	(.)	[.]
=	<	>	≠
\$	°	?	

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
14	4.C.5-1	OGL	Reasoning	MC ² PARCC Practice Test Item Packets-Preparing for Spring 2017

Use the information provided to answer Part A and Part B for question 34.

Jian's family sells honey from beehives. They collected 3,311 ounces of honey from the beehives this season. They will use the honey to completely fill 4-ounce jars or 6-ounce jars.

Jian's family will sell 4-ounce jars for \$5 each or 6-ounce jars for \$8 each.

Jian says if they use only 4-ounce jars, they could make \$4,140 because $3,311 \div 4 = 827 \text{ R } 3$. That rounds up to 828, and 828 multiplied by \$5 is \$4,140.

34. Part A

Explain the error that Jian made when finding the amount of money his family could make if they use only 4-ounce jars.

Enter your explanation in the space provided.

Part B

Explain how to determine the money Jian's family could make if they use only 6-ounce jars. Include the total amount of money and the total number of 6-ounce jars in your explanation.

Enter your answers and your explanation in the space provided.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
14	4.C.5-1	OGL	Reasoning	PARCC Released Items Spring 2017

5.

A group of 90 people went on a trip to a state park. Once the group arrived, 10 people from the group went on a walk. The remaining people in the group wanted to go canoeing. Each canoe held 3 people.

- Write and solve an equation to show the number of canoes the group needed. Explain your answer.
- The canoeing group decided that a total of 26 canoes were needed. Explain why the canoeing group's decision was correct or incorrect.

Enter your equation and your explanations in the space provided.



▼ Math symbols

+	-	×	÷
$\frac{\square}{\square}$	$\frac{\square}{\square}$	(-)	[]
=	<	>	≠
\$	°	?	

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
15	4.NBT.5-2	4.NBT.B.5	Number & Operations in Base Ten	

Pending New PARCC Released Test Items

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
16	4.C.7-3	OGL	Reasoning	

Pending New PARCC Released Test Items

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
17	4.OA.3-2	4.OA.A.3	Operations & Algebraic Thinking	MC ² PARCC Practice Test Item Packets-Preparing for Spring 2017

Use the information provided to answer Part A and Part B for question 24.

The number of science fair projects entered for each grade in a city-wide science fair is shown.

City-Wide Science Fair

Grade	Number of Science Fair Projects
3	462
4	759
5	891

24. Part A

The science fair projects are set up on tables. There are 99 long tables used. Each long table holds 7 projects. The rest of the projects are set up on short tables. Each short table can hold 4 projects. What is the **fewest** number of short tables that will be needed for the rest of the projects?

- A. 202
- B. 203
- C. 354
- D. 355

Part B

The science fair judges will be science teachers and volunteers. Each judge will only have time to view 5 science fair projects. There are 133 science teachers. What is the **fewest** number of volunteers needed to have enough judges for all of the projects?

- A. 290
- B. 396
- C. 422
- D. 423

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
17	4.OA.3-2	4.OA.A.3	Operations & Algebraic Thinking	MC ² PARCC Practice Test Item Packets-Preparing for Spring 2017

- 30.** Hayley has 272 beads. She buys 38 more beads. She will use 89 beads to make bracelets and the rest to make necklaces. She will use 9 beads for each necklace.

What is the **greatest** number of necklaces Hayley can make?

Enter your answer in the box.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
17	4.OA.3-2	4.OA.A.3	Operations & Algebraic Thinking	MC ² PARCC Practice Test Item Packets-Preparing for Spring 2017

Use the information provided to answer Part A and Part B for question 34.

Jian's family sells honey from beehives. They collected 3,311 ounces of honey from the beehives this season. They will use the honey to completely fill 4-ounce jars or 6-ounce jars.

Jian's family will sell 4-ounce jars for \$5 each or 6-ounce jars for \$8 each.

Jian says if they use only 4-ounce jars, they could make \$4,140 because $3,311 \div 4 = 827 \text{ R } 3$. That rounds up to 828, and 828 multiplied by \$5 is \$4,140.

34. Part A

Explain the error that Jian made when finding the amount of money his family could make if they use only 4-ounce jars.

Enter your explanation in the space provided.

Part B

Explain how to determine the money Jian's family could make if they use only 6-ounce jars. Include the total amount of money and the total number of 6-ounce jars in your explanation.

Enter your answers and your explanation in the space provided.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
17	4.OA.3-2	4.OA.A.3	Operations & Algebraic Thinking	MC ² PARCC Practice Test Item Packets-Preparing for Spring 2017

Four teachers offer an after-school chess club. The table shows the number of students who joined.

Grade	Number of Students
third	12
fourth	36
fifth	9

Part A

The teachers will divide the total group of students who joined into teams of **no more than** 6 students.

What is the **least** number of teams that will include all of the students?

Enter your answer in the box.

teams

Part B

The chess club started with 18 chess sets. The teachers ordered 3 cases of 15 chess sets. They will divide the total number of chess sets so that each teacher receives an equal number. Then they will give any extra sets to the school library.

What is the **greatest** number of chess sets each of the 4 teachers should get?

Enter your answer in the box.

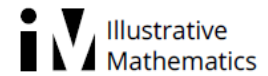
chess sets

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
18	4.C.7-1	OGL	Reasoning	

Pending New PARCC Released Test Items

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
19	4.OA.4-4	4.OA.B.4	Operations & Algebraic Thinking	Illustrative Mathematics

4.OA Numbers in a Multiplication Table



The table below shows all the products of pairs of numbers between 1 and 9.

x	1	2	3	4	5	6	7	8	9
1	1	2	3	4	5	6	7	8	9
2	2	4	6	8	10	12	14	16	18
3	3	6	9	12	15	18	21	24	27
4	4	8	12	16	20	24	28	32	36
5	5	10	15	20	25	30	35	40	45
6	6	12	18	24	30	36	42	48	54
7	7	14	21	28	35	42	49	56	63
8	8	16	24	32	40	48	56	64	72
9	9	18	27	36	45	54	63	72	81

- Which numbers appear only once in the table of products? Where are these numbers located in the table? Why?
- Which numbers appear the most frequently in the table? Why?
- Which numbers between 10 and 20 do *not* appear in the table? What do these numbers have in common?



4.OA Numbers in a Multiplication Table
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Difficulty Order	Evidence Statement	Common Core State Standard	Domains	Source
20	4.Int.4	4.MD.A.2 4.NBT.B.6	Measurement & Data Number & Operations in Base Ten	MC ² PARCC Practice Test Item Packets-Preparing for Spring 2017

A team runs a race. There are 4 people on the team, and each person runs the same distance. The team runs a total distance of 5,280 feet.

What is the distance, in feet, that each person runs?

Enter your answer in the box.

 feet

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
20	4.Int.4	4.MD.A.2 4.NBT.B.6	Measurement & Data Number & Operations in Base Ten	PARCC Released Items Spring 2017

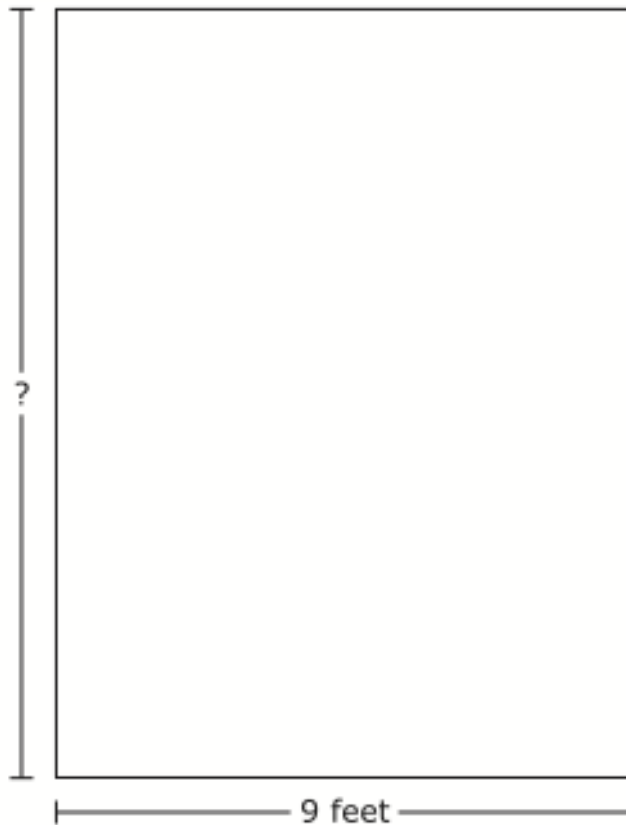
30.

A principal bought 3,360 colored pens at the beginning of the school year. He bought the same number of each color. If there are 8 colors, how many of each color did the principal buy?

- A. 312
- B. 336
- C. 420
- D. 595

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
21	4.MD.3	4.MD.A.3	Measurement & Data	MC ² PARCC Practice Test Item Packets-Preparing for Spring 2017

1. The area of the rectangular sandbox at Dave's school is 108 square feet. The sandbox has a width of 9 feet as shown in the diagram.



What is the length, in feet, of the sandbox?

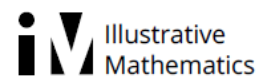
Enter your answer in the box.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
22	4.C.6-1	OGL	Reasoning	

Pending New PARCC Released Test Items

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
23	4.NF.5	4.NF.C.5	Number & Operations - Fractions	Illustrative Mathematics

4.NF Adding Tenths and Hundredths



Find the sums.

a. $\frac{9}{10} + \frac{8}{100}$

b. $\frac{7}{100} + \frac{3}{10}$

c. $\frac{2}{10} + \frac{41}{100}$

d. $\frac{23}{100} + \frac{7}{10}$

e. $\frac{7}{10} + \frac{20}{100}$

f. $\frac{1}{10} + \frac{9}{100} + \frac{13}{10} + \frac{21}{100}$



4.NF Adding Tenths and Hundredths
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Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
24	4.C.5-6	SHK	Reasoning	MC ² PARCC Practice Test Item Packets-Preparing for Spring 2017

31. Part A

Shaun plotted a point on the number line by drawing 5 equally spaced marks between 0 and 1 and placing a point on the third mark. He claims that the point represents the fraction $\frac{3}{5}$ because each mark represents $\frac{1}{5}$, so the third mark represents $\frac{3}{5}$.



- Explain why Shaun's reasoning is incorrect.
- Explain how you can use the number line to determine the fraction that Shaun's point represents.
- Determine the fraction that Shaun's point represents.

Enter your explanations and your answer in the space provided.

Part B

Shaun wants to write a fraction that is equivalent to the fraction $\frac{2}{3}$.

Describe how Shaun can find a fraction that is equivalent to $\frac{2}{3}$.

Enter your description in the space provided.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
24	4.C.5-6	SHK	Reasoning	PARCC Released Items Spring 2017

26.

Jordan and Landon each made three statements about fractions.

Part A

Jordan's statements:

Statement 1: $\frac{6}{3} = 2$ since $2 \times 3 = 6$.

Statement 2: $\frac{7}{1} = 7$ since 7 wholes equals 7.

Statement 3: $\frac{6}{6} = 6$ since the numerator and the denominator are both 6.

- Determine which statement made by Jordan is incorrect and explain why it is not correct.
- Explain how to rewrite the statement so that it is correct.

Enter your answer and your explanations in the space provided.



▼ Math symbols

+	-	×	÷
$\frac{\square}{\square}$	$\frac{\square}{\square}$	(-)	[]
=	<	>	≠
\$	°	?	

Continued on next page.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
24	4.C.5-6	SHK	Reasoning	PARCC Released Items Spring 2017

Part B

Landon's statements:

Statement 1: $\frac{2}{3} = \frac{2}{4}$ because the numerators are equal.

Statement 2: $\frac{5}{8} > \frac{3}{8}$ because 5 is greater than 3 and the denominators are equal.

Statement 3: $\frac{1}{3} < \frac{2}{3}$ because 1 is less than 2 and the denominators are equal.

- Determine which statement made by Landon is not correct and explain why it is not correct.
- Explain how to rewrite the statement so that it is correct.

Enter your answer and your explanation in the space provided.



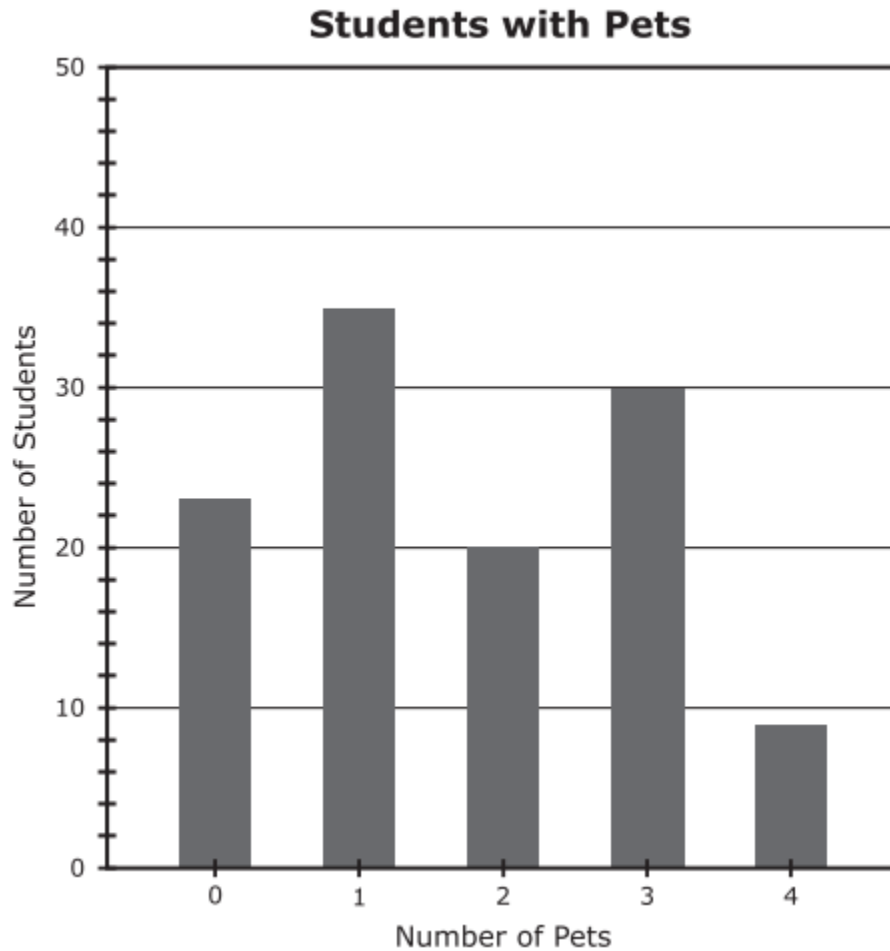
▼ Math symbols

+	-	×	÷
$\frac{\square}{\square}$	$\frac{\square}{\square}$	(.)	[]
=	<	>	≠
\$	°	?	

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
25	4.D.2	SHK	Modeling	MC ² PARCC Practice Test Item Packets-Preparing for Spring 2017

Use the information provided to answer Part A through Part C for question 4.

Ms. Sloan asked 117 fourth-grade students the question, "How many pets do you have?" She displayed the data she collected in the bar graph shown.



4. Part A

How many of the students that responded have 2 pets?

Enter your answer in the box.

Continued on next page.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
25	4.D.2	SHK	Modeling	MC ² PARCC Practice Test Item Packets-Preparing for Spring 2017

Part B

How many more students have 1 pet than students who have 3 pets? Explain your answer.

Enter your answer and explanation in the space provided.

Part C

Find the total number of pets the fourth-grade students have.

- Explain how you used the bar graph to solve the problem.
- Show your work using equations.

Enter your explanation, your work, and the total number of pets in the space provided.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
26	4.MD.2-2	4.MD.A.2	Measurement & Data	

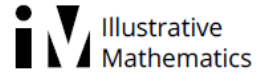
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Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
27	4.C.4-2	OGL	Reasoning	

Pending New PARCC Released Test Items

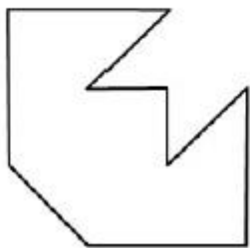
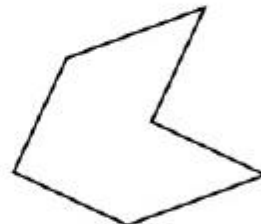
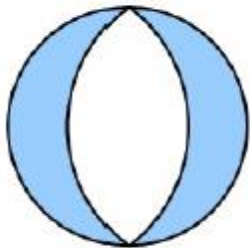
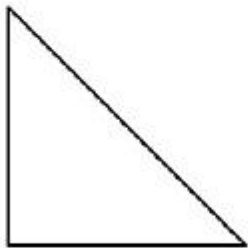
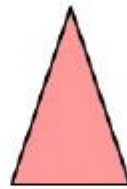
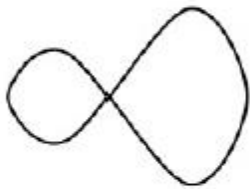
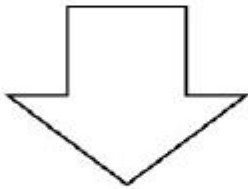
Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
28	4.G.3	4.G.A.3	Geometry	Illustrative Mathematics

4.G Finding Lines of Symmetry



Problem Set

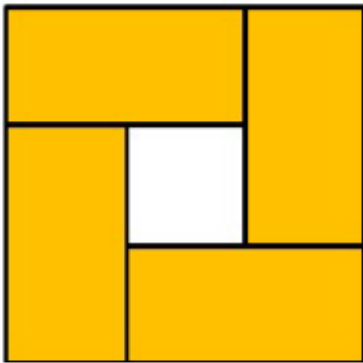
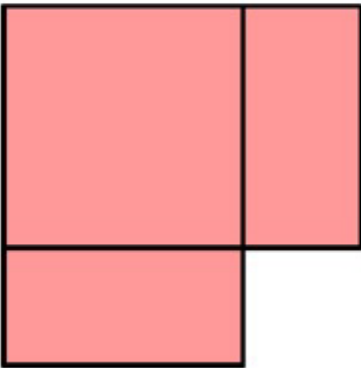
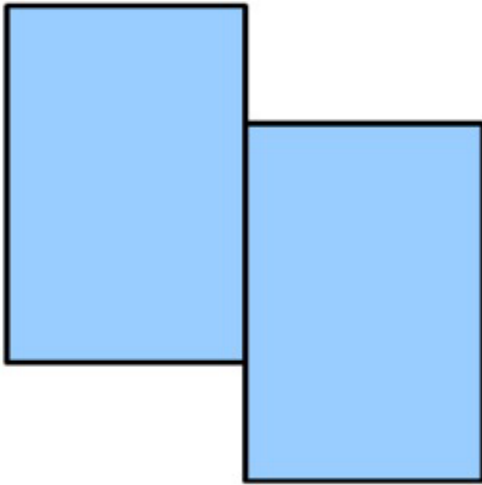
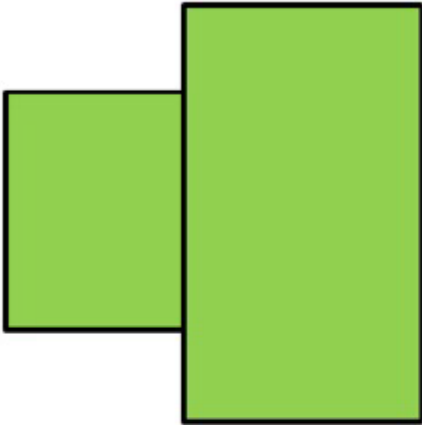
a. Each shape below has a line of symmetry. Draw a line of symmetry for each shape.



Continued on next page.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
28	4.G.3	4.G.A.3	Geometry	Illustrative Mathematics

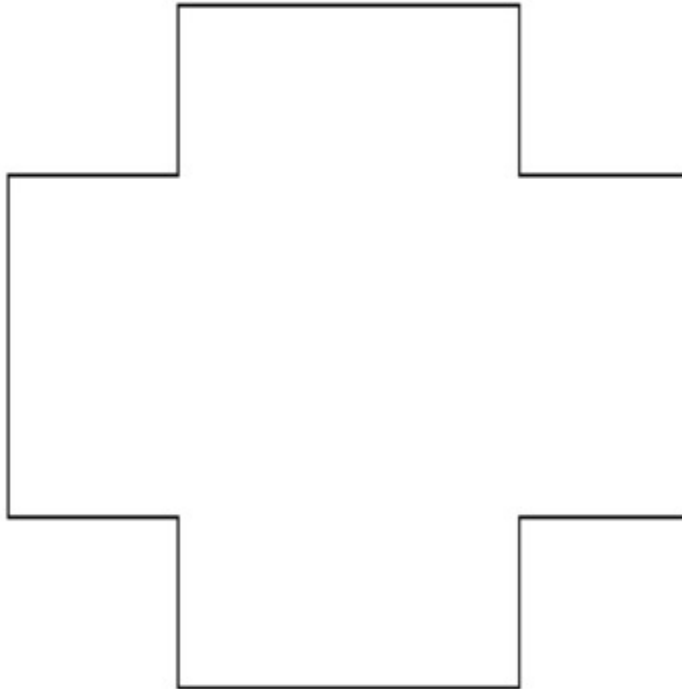
b. Not every shape has an line of symmetry. Which of the four shapes below have a line of symmetry? Draw a line of symmetry on them.



Continued on next page.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
28	4.G.3	4.G.A.3	Geometry	Illustrative Mathematics

c. Some shapes have many lines of symmetry. Draw all the lines of symmetry you can on the shape below. How many are there?



Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
29	4.D.1	OGL	Modeling	MC ² PARCC Practice Test Item Packets-Preparing for Spring 2017

14. The table shows the number of yards Ed ran in each of the first three football games of the season.

Ed's Running Yards

Game	Yards
1	157
2	309
3	172

After the first three games of the season, Rico had exactly 3 times the total number of running yards that Ed had.

How many **more** total running yards did Rico have than Ed after the first three games of the season? Show your work using equations.

Enter your answer and your work in the space provided.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
29	4.D.1	OGL	Modeling	MC ² PARCC Practice Test Item Packets-Preparing for Spring 2017

Use the information provided to answer Part A and Part B for question 23.

Camille wants to make fruit drinks. The directions to make one drink include mixing $\frac{4}{8}$ cup of yogurt and 1 cup of ice with the amounts of each fruit shown.

- $\frac{5}{8}$ cup of banana slices
- $\frac{2}{8}$ cup of blueberries

23. Part A

Camille wants to make 6 drinks for her friends. How many total cups of blueberries and banana slices will she use to make the 6 drinks?

- A. $\frac{7}{8}$
- B. $\frac{12}{8}$
- C. $\frac{30}{8}$
- D. $\frac{42}{8}$

Part B

Next Camille will add the yogurt and ice. How many total cups of yogurt and ice will she use to make the 6 drinks? Show your work or explain your answer.

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

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
29	4.D.1	OGL	Modeling	MC ² PARCC Practice Test Item Packets-Preparing for Spring 2017

Henry cut a piece of yarn that was $\frac{11}{6}$ feet long into two pieces. List two different pairs of fractions that could show the lengths, in feet, of the two pieces. Explain how you found your pairs of fractions.

Enter your fraction pairs and your explanation in the space provided.



▼ Math symbols

+	-	×
÷	$\frac{\square}{\square}$	$\frac{\square}{\square}$
(·)	[·]	=
<	>	≠
\$	°	?

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
29	4.D.1	OGL	Modeling	PARCC Released Items Spring 2017

11.

Two science classes are conducting an experiment together in the science lab. Each class has 23 students. The tables in the science lab can each seat up to 4 students.

- Write an equation to find the least number of tables needed for all the students from both classes in the science lab. Use a letter for the unknown value in your equation.
- How many tables are needed for all the students from both science classes?
- Explain your answer.

Enter your equation, answer, and explanation in the space provided.

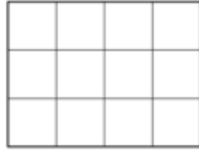


▼ Math symbols

+	-	×	÷
$\frac{\square}{\square}$	$\frac{\square}{\square}$	(.)	[]
=	<	>	≠
\$	°	?	

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
30	4.C.4-1	OGL	Reasoning	PARCC Computer-Based Practice Test, Unit 3

Martin cut a pan of corn bread into equal pieces as shown in the model.



Part A

Martin gave $\frac{1}{3}$ of the corn bread to his neighbor.

Explain how you can use the model to show $\frac{1}{3}$. Then write a fraction that is equivalent to $\frac{1}{3}$.

Enter your explanation and your answer in the space provided.



Math symbols

+	-	×	÷
$\frac{\square}{\square}$	$\frac{\square}{\square}$	()	·
=	<	>	≠
\$	°	?	

Part B

Martin gave $\frac{6}{12}$ of the corn bread to his teacher.

Write a comparison using <, >, or = to compare the fractions $\frac{1}{3}$ and $\frac{6}{12}$. Explain how the model can be used to compare these fractions.

Enter your comparison and your explanation in the space provided.

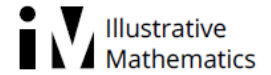


Math symbols

+	-	×	÷
$\frac{\square}{\square}$	$\frac{\square}{\square}$	()	·
=	<	>	≠
\$	°	?	

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
31	4.NF.3c	4.NF.B.3.C	Number & Operations - Fractions	Illustrative Mathematics

4.NF Cynthia's Perfect Punch



Cynthia is making her famous "Perfect Punch" for a party. After looking through the recipe, Cynthia knows that she needs to mix $4\frac{5}{8}$ gallons of fruit juice concentrate with $3\frac{7}{8}$ gallons of sparkling water.

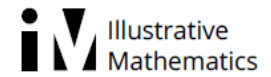
- Just as she is about to get started she realizes that she only has one 10-gallon container to use for mixing. Will this container be big enough to hold all the ingredients?
- How much punch will this recipe make?



4.NF Cynthia's Perfect Punch
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Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
31	4.NF.3c	4.NF.B.3.C	Number & Operations - Fractions	Illustrative Mathematics

4.NF Peaches



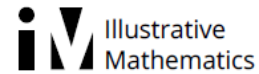
Alfredo picked $2\frac{3}{4}$ pounds of peaches from the tree in his backyard. He gave $1\frac{1}{4}$ pounds to his neighbor Madeleine. How many pounds of peaches does Alfredo have left?



4.NF Peaches
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Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
32	4.NBT.6-2	4.NBT.B.6	Number & Operations in Base Ten	Illustrative Mathematics

4.NBT Mental Division Strategy



Jillian says

I know that 20 times 7 is 140 and if I take away 2 sevens that leaves 126. So $126 \div 7 = 18$.

- Is Jillian's calculation correct? Explain.
- Draw a picture showing Jillian's reasoning.
- Use Jillian's method to find $222 \div 6$.



4.NBT Mental Division Strategy
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Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
33	4.NF.Int.1	Multiple	Number & Operations - Fractions	MC ² PARCC Practice Test Item Packets-Preparing for Spring 2017

Use the information provided to answer Part A and Part B for question 17.

Rachana has a set of 10 mugs. The set is made up of three different kinds of mugs.

- $\frac{1}{2}$ of the mugs have pictures on them.
- $\frac{2}{5}$ of the mugs have words on them.
- $\frac{1}{10}$ of the mugs have flowers on them.

17. Part A

Select the **three** number sentences that correctly compare two of these fractions.

A. $\frac{1}{2} < \frac{2}{5}$

B. $\frac{1}{2} > \frac{2}{5}$

C. $\frac{1}{2} < \frac{1}{10}$

D. $\frac{1}{2} > \frac{1}{10}$

E. $\frac{1}{10} < \frac{2}{5}$

F. $\frac{1}{10} > \frac{2}{5}$

Part B

Which fraction is equal to $\frac{2}{5}$?

A. $\frac{1}{10}$

B. $\frac{2}{10}$

C. $\frac{4}{10}$

D. $\frac{5}{10}$

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
33	4.NF.Int.1	Multiple	Number & Operations - Fractions	MC ² PARCC Practice Test Item Packets-Preparing for Spring 2017

37. Part A

Sean buys 5 packages of fish. There is $\frac{7}{8}$ pound of fish in each package.

What is the total weight, in pounds, of fish that Sean buys?

- A. $1\frac{2}{8}$
- B. $1\frac{4}{8}$
- C. $3\frac{5}{8}$
- D. $4\frac{3}{8}$

Part B

Sean cooks 1 package of the fish. He eats $\frac{3}{8}$ pound of the fish from the package.

What is the total weight, in pounds, of the cooked fish that is left after Sean eats $\frac{3}{8}$ pound?

- A. $\frac{2}{8}$
- B. $\frac{3}{8}$
- C. $\frac{4}{8}$
- D. $\frac{5}{8}$

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
33	4.NF.Int.1	Multiple	Number & Operations - Fractions	PARCC Released Items Spring 2017

32.

Connie has $3\frac{7}{8}$ pounds of books in her backpack. She also has $\frac{3}{8}$ pound of school supplies in her backpack.

Part A

Use fractions to create an equation that shows how to find the total weight, in pounds, of the books and school supplies in Connie's backpack. Let w represent the total weight in pounds.

Drag and drop the fractions and symbols into the boxes to create the equation.

+
 -
 ×
 ÷
 w
 $\frac{3}{8}$
 $\frac{10}{8}$
 $\frac{18}{8}$
 $\frac{31}{8}$
 $\frac{77}{8}$

$$\boxed{} \boxed{} \boxed{} = \boxed{}$$

Books
School Supplies

Part B

What is the total weight, in pounds, of the books and school supplies in Connie's backpack?

Enter your answer in the boxes.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
34	4.NF.2-1	4.NF.A.2	Number & Operations - Fractions	MC ² PARCC Practice Test Item Packets-Preparing for Spring 2017

6. Which pairs of fractions show a correct comparison?

Select the **two** correct answers.

A. $\frac{2}{5} = \frac{40}{100}$

B. $\frac{2}{5} > \frac{6}{9}$

C. $\frac{2}{5} > \frac{2}{3}$

D. $\frac{3}{5} < \frac{8}{12}$

E. $\frac{3}{5} > \frac{2}{3}$

F. $\frac{3}{5} = \frac{98}{100}$

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
35	4.Int.5	4.NBT.A.1 4.OA.A.3	Multiple	MC ² PARCC Practice Test Item Packets-Preparing for Spring 2017

35. The length of a desktop is 4 feet. How many inches is the length of the desktop?

Enter your answer in the box.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
36	4.OA.2	4.OA.A.2	Operations & Algebraic Thinking	MC ² PARCC Practice Test Item Packets-Preparing for Spring 2017

14. The table shows the number of yards Ed ran in each of the first three football games of the season.

Ed's Running Yards

Game	Yards
1	157
2	309
3	172

After the first three games of the season, Rico had exactly 3 times the total number of running yards that Ed had.

How many **more** total running yards did Rico have than Ed after the first three games of the season? Show your work using equations.

Enter your answer and your work in the space provided.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
36	4.OA.2	4.OA.A.2	Operations & Algebraic Thinking	MC ² PARCC Practice Test Item Packets-Preparing for Spring 2017

22. A basketball team scored a total of 747 points for the season. This was 9 times the number of points scored in the first game. How many points were scored during the first game?

- A.** 73
- B.** 75
- C.** 82
- D.** 83

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
36	4.OA.2	4.OA.A.2	Operations & Algebraic Thinking	PARCC Released Items Spring 2017

19.

On Thursday, 324 people watched a play. On Friday, 4 times as many people watched the play as on Thursday.

How many people watched the play on Friday?

- A. 788
- B. 1,288
- C. 1,296
- D. 1,386

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
37	4.NF.4b-2	4.NF.B.4.B	Number & Operations - Fractions	Illustrative Mathematics

4.NF Extending Multiplication

From Whole Numbers to Fractions

- Write a story problem that can be solved by finding 5×4 .
- Draw two different diagrams that show that $5 \times 4 = 20$. Explain how your diagrams represent $5 \times 4 = 20$.
- Which of the diagrams you used to represent $5 \times 4 = 20$ can be used to represent $5 \times \frac{2}{3}$? Draw the diagram if possible.



4.NF Extending Multiplication From Whole Numbers to Fractions
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Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
37	4.NF.4b-2	4.NF.B.4.B	Number & Operations - Fractions	PARCC Released Items Spring 2017

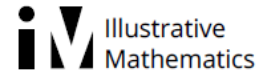
8.

Which expression shows how to find the value of $2 \times \frac{3}{4}$?

- A. $\frac{2+3}{4}$
- B. $\frac{2 \times 3}{4}$
- C. $\frac{3}{2+4}$
- D. $\frac{3}{2 \times 4}$

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
38	4.OA.5	4.OA.C.5	Operations & Algebraic Thinking	Illustrative Mathematics

4.OA Double Plus One



a. The table below shows a list of numbers. For every number listed in the table, multiply it by 2 and add 1. Record the result on the right.

number	double the number plus one
0	
1	
2	
3	
4	
5	
10	
23	
57	
100	
309	

b. What do you notice about the numbers you entered into the table?

c. Sherri noticed that all the numbers she entered are odd.

i. Does an even number multiplied by 2 result in an even or odd number? Why do you think this is?

ii. Does an odd number multiplied by 2 result in an even or odd number? Why do you think this is?

iii. Does an even number plus 1 result in an even or odd number? Why do you think this is?

iv. Does an odd number plus 1 result in an even or odd number? Why do you think this is?

v. Explain why the numbers you entered in the table are all odd.



Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
39	4.NF.7	4.NF.C.7	Number & Operations - Fractions	MC ² PARCC Practice Test Item Packets-Preparing for Spring 2017

8. Part A

Alex ran 0.5 mile.

What number should replace the ? to make a fraction equivalent to 0.5?

$$\frac{?}{10}$$

Enter your answer in the box.

Part B

Christy ran $\frac{4}{10}$ mile on Monday and $\frac{7}{100}$ mile on Tuesday. She said that she ran a total of $\frac{47}{100}$ mile. Christy told Alex that she ran a greater distance than he ran, because 47 is more than 5.

- Identify the incorrect reasoning in Christy’s statement.
- Explain how Christy can correct her reasoning.
- Use $>$, $<$, or $=$ to give a correct comparison between the distances that Alex and Christy ran.

Enter your explanation and the correct comparison in the space provided.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
39	4.NF.7	4.NF.C.7	Number & Operations - Fractions	PARCC Released Items Spring 2017

18.

Which comparisons are correct?

Select the **three** correct answers.

- A. $3.71 < 3.8$
- B. $9.50 > 9.5$
- C. $17.01 = 17.1$
- D. $20.62 < 20.8$
- E. $56.34 > 56.4$
- F. $78.4 = 78.40$

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
40	4.NBT.1	4.NBT.A.1	Number & Operations in Base Ten	MC ² PARCC Practice Test Item Packets-Preparing for Spring 2017

13. The value of the digit 4 in the number 42,780 is 10 times the value of the digit 4 in which number?

- A. 34,651
- B. 146,703
- C. 426,135
- D. 510,400

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
40	4.NBT.1	4.NBT.A.1	Number & Operations in Base Ten	PARCC Released Items Spring 2017

10.

Which statement is true?

- A. The value of the digit 4 is the same in 6,742 and 2,481.
- B. The value of the digit 4 is the same in 2,481 and 4,563.
- C. The value of the digit 4 is 10 times as much in 6,742 as in 4,563.
- D. The value of the digit 4 is 10 times as much in 2,481 as in 6,742.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
41	4.NF.4b-1	4.NF.B.4.B	Number & Operations - Fractions	MC ² PARCC Practice Test Item Packets-Preparing for Spring 2017

11. Which expression is equivalent to $6 \times \frac{2}{3}$?

A. $12 \times \frac{1}{2}$

B. $12 \times \frac{1}{3}$

C. $6 \times \frac{1}{3}$

D. $3 \times \frac{2}{3}$

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
42	4.Int.2	4.NBT.B.5	Number & Operations in Base Ten	MC ² PARCC Practice Test Item Packets-Preparing for Spring 2017

- 36.** Mr. Kowolski ordered 35 boxes of granola bars. Each box contained 24 granola bars.

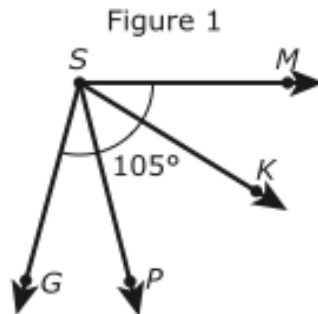
What is the total number of granola bars Mr. Kowolski ordered?

Enter your answer in the box.

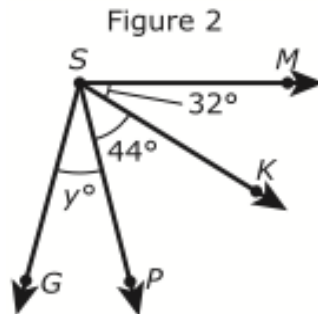
Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
43	4.MD.7	4.MD.C.7	Measurement & Data	MC ² PARCC Practice Test Item Packets-Preparing for Spring 2017

Use the information provided to answer Part A and Part B for question 29.

Two figures are shown. In Figure 1, the measure of angle MSG is 105° .



The measures of angle MSK , angle KSP , and angle PSG are shown in Figure 2. The measure of angle MSG is still 105° .



29. Part A

Which equation can be used to find the value of y ?

- A. $y - 44 - 32 = 105$
- B. $y \times 44 \times 32 = 105$
- C. $y + 44 + 32 = 105$
- D. $y + 44 + 32 = 105$

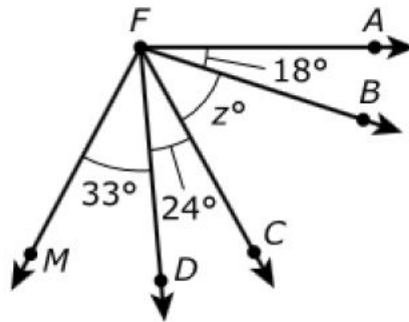
Part B

What is the value of y ?

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
43	4.MD.7	4.MD.C.7	Measurement & Data	PARCC Released Items Spring 2017

24.

The measure of angle AFM is 118° .



Part A

What is the measure, in degrees, of angle CFM ?

Enter your answer in the box.

Part B

What is the measure, in degrees, of angle AFC ?

Enter your answer in the box.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
44	4.NBT.6-1	4.NBT.B.6	Number & Operations in Base Ten	MC ² PARCC Practice Test Item Packets-Preparing for Spring 2017

12. Enter your answer in the box.

$$522 \div 9 =$$

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
44	4.NBT.6-1	4.NBT.B.6	Number & Operations in Base Ten	PARCC Released Items Spring 2017

9.

Complete the steps to find the quotient of $492 \div 6$.

Enter your answers in the boxes.

$$492 \div 6$$

Step 1. ($\div 6$) + (180 $\div 6$) + ($\div 6$)

Step 2. + + 2

Quotient.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
45	4.NF.4a	4.NF.B.4.A	Number & Operations - Fractions	

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Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
46	4.NF.3d	4.NF.B.3.D	Number & Operations - Fractions	MC ² PARCC Practice Test Item Packets-Preparing for Spring 2017

Use the information provided to answer Part A and Part B for question 10.

Each student in a class chose one sport to play. The table shows the fractions of all students who chose each sport.

Sport	Fraction of All Students
soccer	$\frac{3}{10}$
football	$\frac{2}{10}$
hockey	$\frac{1}{10}$
basketball	$\frac{4}{10}$

10. Part A

Which equation can be used to find s , the fraction of all students that chose to play either soccer or basketball?

- A. $\frac{3}{10} + \frac{4}{10} = s$
- B. $\frac{2}{10} - \frac{1}{10} = s$
- C. $\frac{4}{10} + \frac{2}{10} = s$
- D. $\frac{4}{10} - \frac{3}{10} = s$

Part B

What fraction of all the students chose to play either soccer or basketball?

- A. $\frac{1}{10}$
- B. $\frac{3}{10}$
- C. $\frac{6}{10}$
- D. $\frac{7}{10}$

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
46	4.NF.3d	4.NF.B.3.D	Number & Operations - Fractions	MC ² PARCC Practice Test Item Packets-Preparing for Spring 2017

Henry cut a piece of yarn that was $\frac{11}{6}$ feet long into two pieces. List two different pairs of fractions that could show the lengths, in feet, of the two pieces. Explain how you found your pairs of fractions.

Enter your fraction pairs and your explanation in the space provided.



▼ Math symbols

+	-	×
÷	$\frac{\square}{\square}$	$\frac{\square}{\square}$
(·)	[·]	=
<	>	≠
\$	°	?

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
46	4.NF.3d	4.NF.B.3.D	Number & Operations - Fractions	PARCC Released Items Spring 2017

7.

Melanie measured the mass of three textbooks.

- The mass of the math book is $\frac{9}{10}$ kilogram.
- The mass of the science book is $\frac{3}{10}$ kilogram less than the mass of the math book.
- The mass of the reading book is $\frac{2}{10}$ kilogram greater than the mass of the science book.

Part A

What is the mass of the reading book?

- A. $\frac{4}{10}$ kilogram
- B. $\frac{5}{10}$ kilogram
- C. $\frac{8}{10}$ kilogram
- D. $\frac{14}{10}$ kilograms

Part B

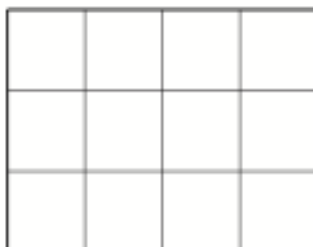
The mass of a music book and an art book together equal the mass of the math book. Which expression could show the mass of the music and art books?

- A. $\frac{3}{10} + \frac{3}{10}$
- B. $\frac{6}{10} + \frac{2}{10}$
- C. $\frac{7}{10} + \frac{2}{10}$
- D. $\frac{9}{10} + \frac{9}{10}$

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
47	4.NF.A.Int.1	4.NF.A.1 4.NF.A.2	Number & Operations - Fractions	MC ² PARCC Practice Test Item Packets-Preparing for Spring 2017

Use the information provided to answer Part A and Part B for question 26.

Martin cut a pan of corn bread into equal pieces as shown in the model.



26. Part A

Martin gave $\frac{1}{3}$ of the corn bread to his neighbor.

Explain how you can use the model to show $\frac{1}{3}$. Then write a fraction that is equivalent to $\frac{1}{3}$.

Enter your explanation and your answer in the space provided.

Part B

Martin gave $\frac{6}{12}$ of the corn bread to his teacher.

Write a comparison using $<$, $>$, or $=$ to compare the fractions $\frac{1}{3}$ and $\frac{6}{12}$.

Explain how the model can be used to compare these fractions.

Enter your comparison and your explanation in the space provided.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
47	4.NF.A.Int.1	4.NF.A.1 4.NF.A.2	Number & Operations - Fractions	MC ² PARCC Practice Test Item Packets-Preparing for Spring 2017

Use the information provided to answer Part A and Part B for question 23.

Camille wants to make fruit drinks. The directions to make one drink include mixing $\frac{4}{8}$ cup of yogurt and 1 cup of ice with the amounts of each fruit shown.

- $\frac{5}{8}$ cup of banana slices
- $\frac{2}{8}$ cup of blueberries

23. Part A

Camille wants to make 6 drinks for her friends. How many total cups of blueberries and banana slices will she use to make the 6 drinks?

- A. $\frac{7}{8}$
- B. $\frac{12}{8}$
- C. $\frac{30}{8}$
- D. $\frac{42}{8}$

Part B

Next Camille will add the yogurt and ice. How many total cups of yogurt and ice will she use to make the 6 drinks? Show your work or explain your answer.

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

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
47	4.NF.A.Int.1	4.NF.A.1 4.NF.A.2	Number & Operations - Fractions	PARCC Released Items Spring 2017

14.

Kyle lives $\frac{4}{12}$ mile from school. Jane lives a greater distance from school than Kyle.

Part A

Which fraction could be the distance, in miles, that Jane lives from school?

- A. $\frac{1}{3}$
- B. $\frac{2}{5}$
- C. $\frac{2}{8}$
- D. $\frac{3}{10}$

Part B

Show whether each fraction is less than, equal to, or greater than $\frac{4}{12}$.

Drag and drop each fraction into the correct box.

$\frac{1}{4}$

$\frac{2}{6}$

$\frac{3}{8}$

$\frac{3}{5}$

$\frac{2}{10}$

Less than $\frac{4}{12}$

Equal to $\frac{4}{12}$

Greater than $\frac{4}{12}$

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
48	4.NF.4c	4.NF.B.4.C	Number & Operations - Fractions	MC ² PARCC Practice Test Item Packets-Preparing for Spring 2017

16. Ryan makes 6 backpacks. He uses $\frac{3}{4}$ yard of cloth to make each backpack. What is the total amount of cloth, in yards, Ryan uses to make all 6 backpacks?

- A. $1\frac{1}{2}$
- B. $2\frac{1}{4}$
- C. $4\frac{1}{2}$
- D. $6\frac{3}{4}$

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
48	4.NF.4c	4.NF.B.4.C	Number & Operations - Fractions	MC ² PARCC Practice Test Item Packets-Preparing for Spring 2017

Henry cut a piece of yarn that was $\frac{11}{6}$ feet long into two pieces. List two different pairs of fractions that could show the lengths, in feet, of the two pieces. Explain how you found your pairs of fractions.

Enter your fraction pairs and your explanation in the space provided.



▼ Math symbols

+	-	×
÷	$\frac{\square}{\square}$	$\frac{\square}{\square}$
()	[]	=
<	>	≠
\$	°	?

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
48	4.NF.4c	4.NF.B.4.C	Number & Operations - Fractions	PARCC Released Items Spring 2017

13.

There are 12 players on Manny's baseball team. For a snack, each player on the team gets $\frac{3}{4}$ ounce of almonds. How many total ounces of almonds are needed for the team's snack?

Enter your answer in the box.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
49	4.NBT.Int.1	Multiple	Number & Operations in Base Ten	MC ² PARCC Practice Test Item Packets-Preparing for Spring 2017

9. Enter your answer in the box.

$$3,950 + 405 =$$

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
49	4.NBT.Int.1	Multiple	Number & Operations in Base Ten	PARCC Released Items Spring 2017

6.

Select the **two** values that are about 300 more than 985,382.

- A. 985,082
- B. 985,410
- C. 985,600
- D. 985,680
- E. 985,700
- F. 988,300

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
49	4.NBT.Int.1	Multiple	Number & Operations in Base Ten	PARCC Released Items Spring 2017

20.

Part A

Solve the multiplication problems to discover a pattern.

Enter your answers in the boxes.

$$1 \times 6 = 6$$

$$10 \times 6 = \boxed{}$$

$$100 \times 6 = \boxed{}$$

$$1,000 \times 6 = \boxed{}$$

Part B

Use the pattern to help you solve this problem.

Enter your answer in the box.

$$100,000 \times 6 = \boxed{}$$

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
50	4.MD.5	4.MD.C.5 4.MD.C.5.A	Measurement & Data	MC ² PARCC Practice Test Item Packets-Preparing for Spring 2017

32. Which statement about angles is true?

- A.** An angle is formed by two rays that do not have the same endpoint.
- B.** An angle that turns through $\frac{1}{360}$ of a circle has a measure of 360 degrees.
- C.** An angle that turns through five 1-degree angles has a measure of 5 degrees.
- D.** An angle measure is equal to the total length of the two rays that form the angle.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
50	4.MD.5	4.MD.C.5 4.MD.C.5.A	Measurement & Data	PARCC Released Items Spring 2017

27.

On which clock do the hands show a 90° angle?

A.



C.



B.



D.



Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
51	4.OA.3-1	4.OA.A.3	Operations & Algebraic Thinking	MC ² PARCC Practice Test Item Packets-Preparing for Spring 2017

Use the information provided to answer Part A and Part B for question 34.

Jian's family sells honey from beehives. They collected 3,311 ounces of honey from the beehives this season. They will use the honey to completely fill 4-ounce jars or 6-ounce jars.

Jian's family will sell 4-ounce jars for \$5 each or 6-ounce jars for \$8 each.

Jian says if they use only 4-ounce jars, they could make \$4,140 because $3,311 \div 4 = 827 \text{ R } 3$. That rounds up to 828, and 828 multiplied by \$5 is \$4,140.

34. Part A

Explain the error that Jian made when finding the amount of money his family could make if they use only 4-ounce jars.

Enter your explanation in the space provided.

Part B

Explain how to determine the money Jian's family could make if they use only 6-ounce jars. Include the total amount of money and the total number of 6-ounce jars in your explanation.

Enter your answers and your explanation in the space provided.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
52	4.NF.Int.2	4.NF.A.1 4.NF.C.5 4.NF.C.6	Number & Operations - Fractions	MC ² PARCC Practice Test Item Packets-Preparing for Spring 2017

Use the information provided to answer Part A and Part B for question 2.

Jordan places two boards end to end to make one shelf. The first board is

$\frac{47}{100}$ meter long. The second board is $\frac{5}{10}$ meter long.

2. Part A

What fraction is equivalent to $\frac{5}{10}$ and has a denominator of 100?

A. $\frac{5}{100}$

B. $\frac{50}{100}$

C. $\frac{105}{100}$

D. $\frac{150}{100}$

Part B

What is the total length, in meters, of the two boards?

A. $9\frac{7}{10}$

B. $5\frac{2}{10}$

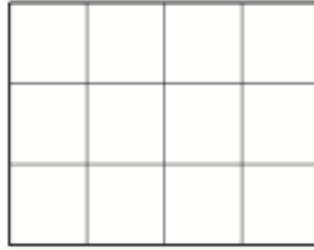
C. $\frac{97}{100}$

D. $\frac{52}{100}$

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
53	4.NF.1-2	4.NF.A.1	Number & Operations - Fractions	MC ² PARCC Practice Test Item Packets-Preparing for Spring 2017

Use the information provided to answer Part A and Part B for question 26.

Martin cut a pan of corn bread into equal pieces as shown in the model.



26. Part A

Martin gave $\frac{1}{3}$ of the corn bread to his neighbor.

Explain how you can use the model to show $\frac{1}{3}$. Then write a fraction that is equivalent to $\frac{1}{3}$.

Enter your explanation and your answer in the space provided.

Part B

Martin gave $\frac{6}{12}$ of the corn bread to his teacher.

Write a comparison using $<$, $>$, or $=$ to compare the fractions $\frac{1}{3}$ and $\frac{6}{12}$.

Explain how the model can be used to compare these fractions.

Enter your comparison and your explanation in the space provided.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
53	4.NF.1-2	4.NF.A.1	Number & Operations - Fractions	PARCC Released Items Spring 2017

4.

Write a different fraction that is equivalent to $\frac{4}{4}$.

Enter your answer in the boxes.

Difficulty Order	Evidence Statement	Common Core State Standard	Domains	Source
54	4.Int.3	4.NBT.B.5 4.OA.A.2	Number & Operations in Base Ten Operations in Algebraic Thinking	

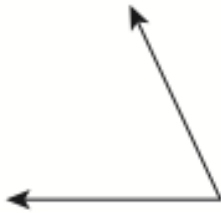
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Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
55	4.MD.6	4.MD.C.6	Measurement & Data	MC ² PARCC Practice Test Item Packets-Preparing for Spring 2017

19. Which angle has a measure of 65° ?

You can use a protractor to help you find the answer.

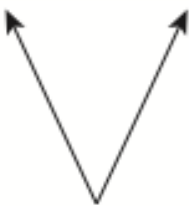
A.



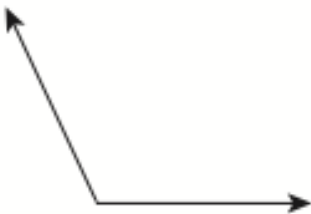
B.



C.



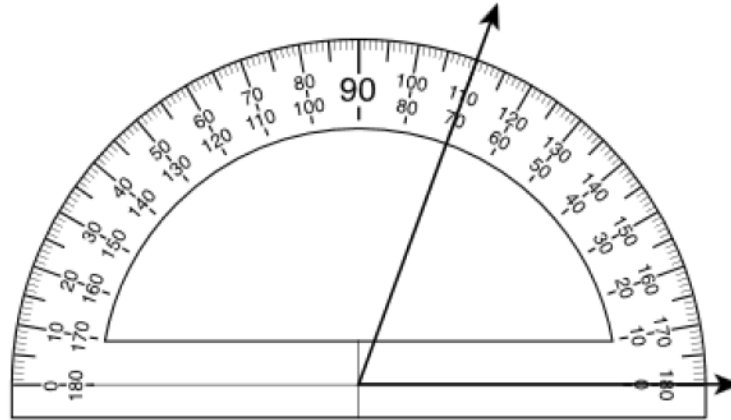
D.



Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
55	4.MD.6	4.MD.C.6	Measurement & Data	PARCC Released Items Spring 2017

16.

Kelly drew the angle shown.

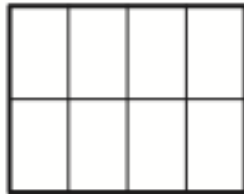


Which value is closest to the measurement of Kelly's angle?

- A. 40°
- B. 70°
- C. 110°
- D. 180°

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
56	4.NF.3a	4.NF.B.3.A	Number & Operations - Fractions	MC ² PARCC Practice Test Item Packets-Preparing for Spring 2017

33. The rectangle is divided into eight equal sections.



Jodi colors 4 sections. Then she colors 3 more sections.

Which **two** of these represent the fraction of the rectangle that Jodi colors in all?

Select the **two** correct answers.

A. $\frac{4}{8} + \frac{3}{8}$

B. $4 + 3$

C. $\frac{8}{4} + \frac{8}{3}$

D. $\frac{1}{8} + 3$

E. $\frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8}$

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
57	4.OA.1-1	4.OA.A.1	Operations & Algebraic Thinking	PARCC Released Items Spring 2017

31.

Which statements represent $4 \times 9 = 36$?

Select the **two** correct statements.

- A. 4 more than 9 is 36.
- B. 4 times as many as 9 is 36.
- C. 4 is 9 times as many as 36.
- D. 9 more than 4 is 36.
- E. 9 times as many as 4 is 36.
- F. 9 is 4 times as many as 36.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
58	4.NBT.4-2	4.NBT.B.4	Number & Operations in Base Ten	MC ² PARCC Practice Test Item Packets-Preparing for Spring 2017

15. Enter your answer in the box.

$$5,314 - 4,983 =$$

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
58	4.NBT.4-2	4.NBT.B.4	Number & Operations in Base Ten	PARCC Released Items Spring 2017

12.

Solve.

Enter your answer in the box.

$8,782 - 1,855 =$

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
59	4.NBT.2	4.NBTA.2	Number & Operations in Base Ten	MC ² PARCC Practice Test Item Packets-Preparing for Spring 2017

7. Which numbers make the comparison true?

$$27,768 < \square$$

Select the **two** correct answers.

- A. 27,759
- B. 28,744
- C. 26,773
- D. 27,568
- E. 27,836

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
60	4.Int.7	4.NBT.A.1 4.NBT.B.4	Number & Operations in Base Ten	MC ² PARCC Practice Test Item Packets-Preparing for Spring 2017

39. The Amazon River is about 6,516 kilometers long.

The Mississippi River is about 3,775 kilometers long.

What is the difference, in kilometers, between these two lengths?

Enter your answer in the box.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
60	4.Int.7	4.NBT.A.1 4.NBT.B.4	Number & Operations in Base Ten	PARCC Released Items Spring 2017

33.

A truck driver left San Francisco, California, and drove to Chicago, Illinois. The truck driver then drove to Key West, Florida.

The driving distance between San Francisco and Chicago is 2,132 miles. The driving distance between Chicago and Key West is 1,535 miles.

What is the total distance, in miles, driven by the truck driver?

Enter your answer in the box.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
61	4.OA.1-2	4.OA.A.1	Operations & Algebraic Thinking	MC ² PARCC Practice Test Item Packets-Preparing for Spring 2017

25. Which **two** equations represent the statement "48 is 6 times as many as 8"?

Select the **two** correct answers.

A. $48 = 6 + 8$

B. $48 = 6 \times 8$

C. $48 = 6 \times 6$

D. $48 = 8 + 6$

E. $48 = 8 \times 6$

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
61	4.OA.1-2	4.OA.A.1	Operations & Algebraic Thinking	PARCC Released Items Spring 2017

21.

Last year, 54 pounds of paper were recycled. This year, 6 times as many pounds of paper were recycled as last year. Which equation can be used to find n , the number of pounds recycled this year?

- A. $n \times 54 = 6$
- B. $6 \times n = 54$
- C. $6 \times 54 = n$
- D. $54 \times n = 6$

Difficulty Order	Evidence Statement	Common Core State Standard	Domains	Source
62	4.Int.8	4.NBT.B.4 4.OA.A.3	Number & Operations in Base Ten Operations & Algebraic Thinking	MC ² PARCC Practice Test Item Packets-Preparing for Spring 2015

The table shows the number of computers sold at a store in three different months.

Month	Number of Computers
January	6,521
February	2,374
March	2,498

Part A

What is the total number of computers sold at the store in the three months?

Enter your answer in the box.

 computers

Part B

How many **more** computers were sold at the store in January than in both February and March combined?

Enter your answer in the box.

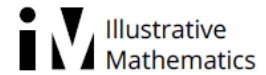
 computers

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
63	4.NF.6	4.NF.C.6	Number & Operations - Fractions	

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Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
64	4.OA.4-2	4.OA.B.4	Operations & Algebraic Thinking	Illustrative Mathematics

4.OA Numbers in a Multiplication Table



The table below shows all the products of pairs of numbers between 1 and 9.

×	1	2	3	4	5	6	7	8	9
1	1	2	3	4	5	6	7	8	9
2	2	4	6	8	10	12	14	16	18
3	3	6	9	12	15	18	21	24	27
4	4	8	12	16	20	24	28	32	36
5	5	10	15	20	25	30	35	40	45
6	6	12	18	24	30	36	42	48	54
7	7	14	21	28	35	42	49	56	63
8	8	16	24	32	40	48	56	64	72
9	9	18	27	36	45	54	63	72	81

- Which numbers appear only once in the table of products? Where are these numbers located in the table? Why?
- Which numbers appear the most frequently in the table? Why?
- Which numbers between 10 and 20 do *not* appear in the table? What do these numbers have in common?



4.OA Numbers in a Multiplication Table
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Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
64	4.OA.4-2	4.OA.B.4	Operations & Algebraic Thinking	PARCC Released Items Spring 2017

3.

Select the **four** numbers that have 21 as a multiple.

- A. 1
- B. 3
- C. 7
- D. 14
- E. 21
- F. 42

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
65	4.C.5-4	OGL	Reasoning	

Pending New PARCC Released Test Items

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
66	4.NBT.5-1	4.NBT.B.5	Number & Operations in Base Ten	MC ² PARCC Practice Test Item Packets-Preparing for Spring 2017

3. Enter your answer in the box.

$$3,649 \times 6 =$$

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
66	4.NBT.5-1	4.NBT.B.5	Number & Operations in Base Ten	PARCC Released Items Spring 2017

2.

Find the value of the expression $4,251 \times 8$.

- A. 32,008
- B. 32,608
- C. 33,608
- D. 34,008

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
67	4.NBT.4-1	4.NBT.B.4	Number & Operations in Base Ten	MC ² PARCC Practice Test Item Packets-Preparing for Spring 2017

28. Enter your answer in the box.

$$7,564 + 8,239 =$$

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
67	4.NBT.4-1	4.NBT.B.4	Number & Operations in Base Ten	PARCC Released Items Spring 2017

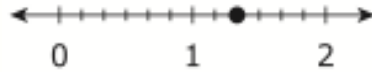
23.

What is the value of $2,681 + 7,534$?

- A. 9,115
- B. 9,215
- C. 10,115
- D. 10,215

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
68	4.NF.3b-1	4.NF.B.3.B	Number & Operations - Fractions	MC ² PARCC Practice Test Item Packets-Preparing for Spring 2017

18. The point on the number line shows the value of the sum of two fractions.



Which expression has the same sum?

A. $\frac{4}{3} + \frac{4}{3}$

B. $\frac{6}{4} + \frac{2}{4}$

C. $\frac{5}{6} + \frac{3}{6}$

D. $\frac{2}{12} + \frac{6}{12}$

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
68	4.NF.3b-1	4.NF.B.3.B	Number & Operations - Fractions	PARCC Released Items Spring 2017

15.

Select the **two** sums that are equal to $\frac{5}{8}$.

A. $\frac{1}{8} + \frac{1}{8}$

B. $\frac{3}{8} + \frac{2}{8}$

C. $\frac{2}{5} + \frac{2}{5} + \frac{1}{5}$

D. $\frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5}$

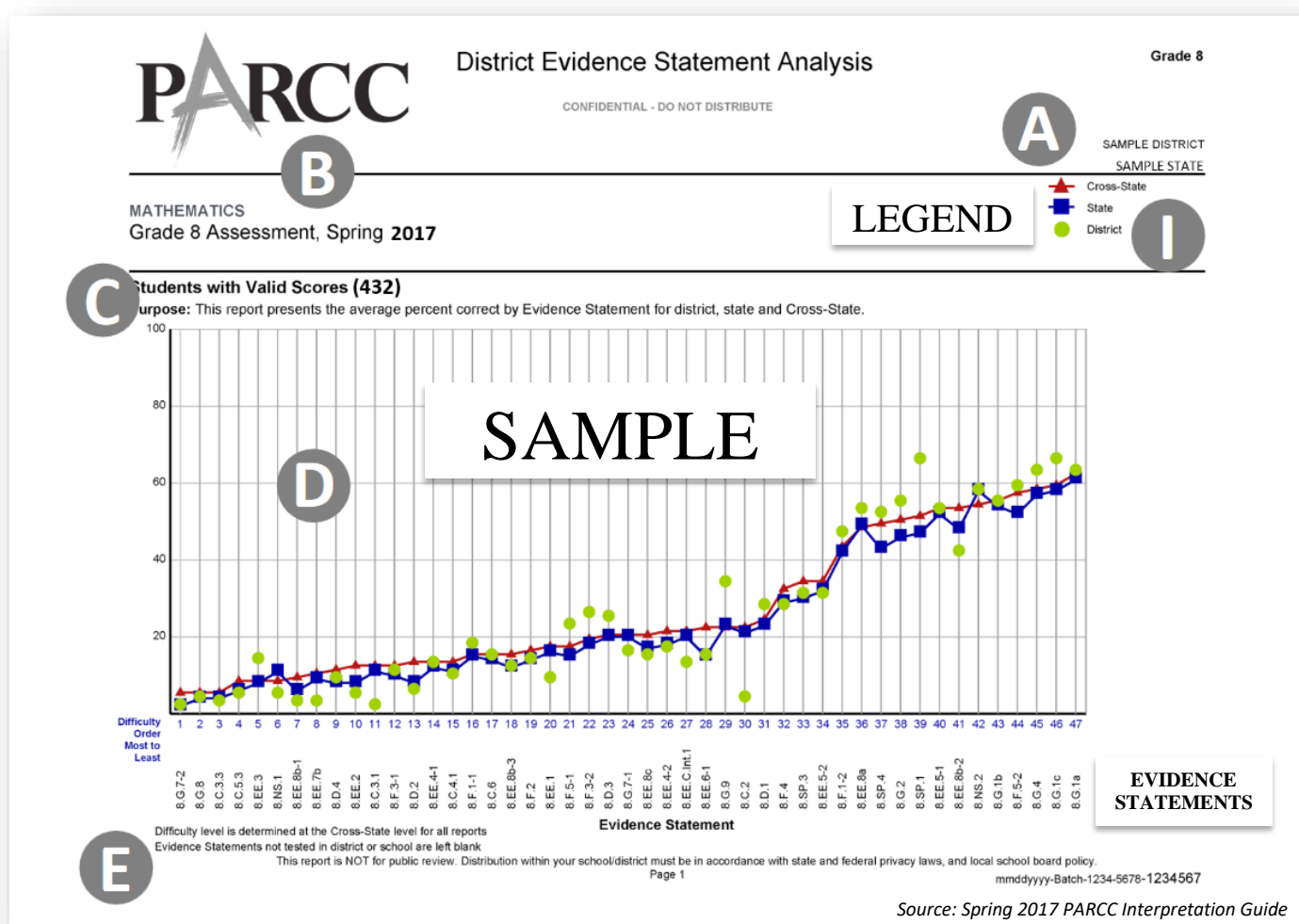
E. $\frac{5}{8} + \frac{5}{8} + \frac{5}{8} + \frac{5}{8} + \frac{5}{8}$

F. $\frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8}$

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, $32 \times 3^{-5} = 3^{-3} = 1/3^3 = 1/27$.*
- 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.6When 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.

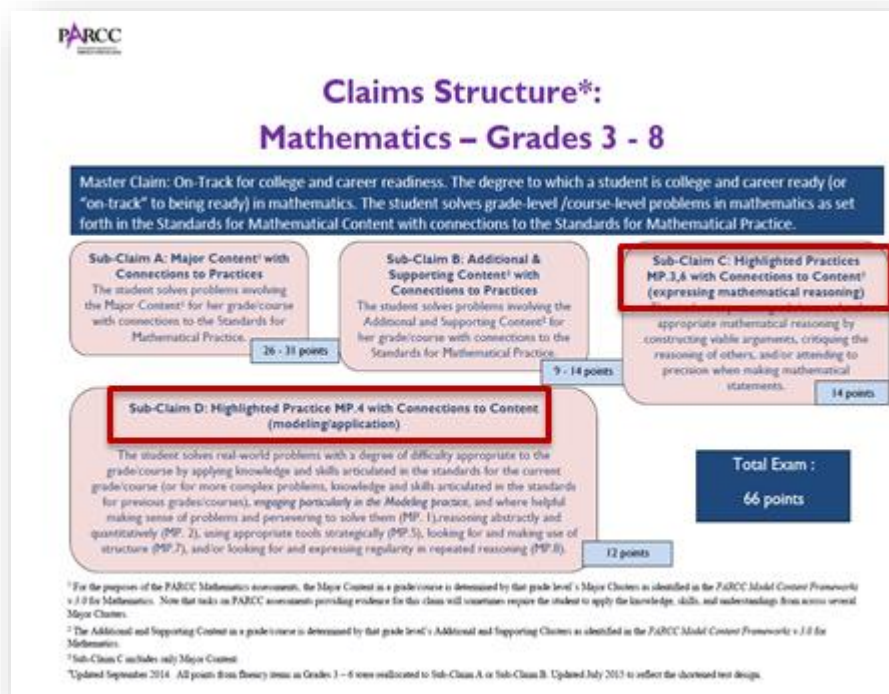
For example, Evidence Statement HS.D.5:

- 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.

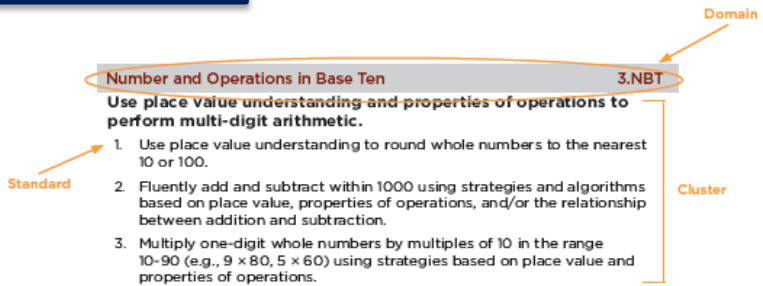
- Type of Modeling: Solve multi-step contextual problems with degree of difficulty appropriate to Gr. 4
- Securely Held Knowledge: requiring application of knowledge and skills articulated in 3.OA.A, 3.OA.8, 3.NBT, and/or 3.MD.

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.



Common Core State Standards

<http://www.corestandards.org/Math/>



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*.

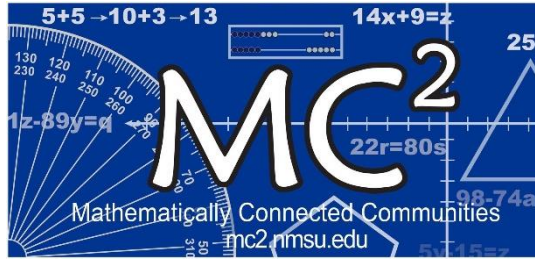
Domains

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

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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