Mathematically Connected Communities

PARCC Practice Test Items
Grade 6 Mathematics

Calculator Allowed

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* https://mc2.nmsu.edu/teachers/preparing-for-parcc/
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- *PARCC Released Items-Spring 2017* https://parcc-assessment.org/released-items/?fwp_subject_facet=mathematics

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User's Guide. 105-107

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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	6.C.7	OGL	Reasoning	MC^2 PARCC Practice Test Item Packets-Preparing for Spring 2017

21. Brianna's teacher asks her which of these three expressions are equivalent to each other.

Expression A: $9x - 3x - 4$

Expression B: $12x - 4$

Expression C: $5x + x - 4$

Brianna says that all three expressions are equivalent because the value of each one is -4 when $x = 0$.

Brianna's thinking is incorrect.

- Identify the error in Brianna's thinking.
- Determine which of the three expressions are equivalent.
- Explain or show your process in determining which expressions are equivalent.

Enter your answers and your explanation or process in the space provided.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
2	6.SP.3	6.SP.A.3	Statistics & Probability	MC^2 PARCC Practice Test Item Packets-Preparing for Spring 2017

18. The median number of points scored by 9 players in a basketball game is 12. The range of the numbers of points scored by the same basketball players in the same game is 7.

Which statement is true based on the given information?

A. At least one player scored 12 points.

B. The greatest number of points scored is less than 19 points.

C. The mean number of points scored is greater than 12 points.

D. If the greatest number of points scored is 16, then the least number of points scored is 4.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
2	6.SP.3	6.SP.A.3	Statistics & Probability	PARCC Released Items Spring 2017

14.

A large city has 6 libraries.

- Each library has at least 1 computer.
- The median number of computers is 12.
- The difference between the maximum number of computers and the minimum number of computers is 35.

Which statements are true about the number of computers in these libraries?

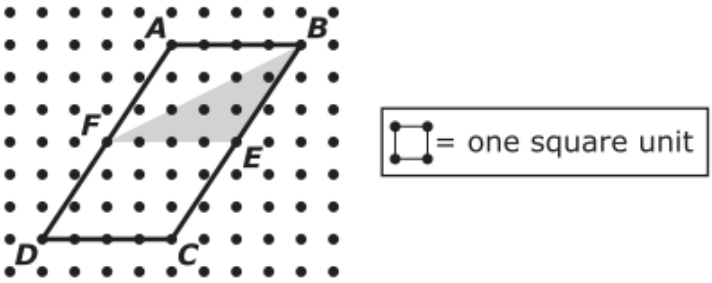
Select **each** correct answer.

- ☐ A. There must be 3 libraries with 12 computers.
- ☐ B. A library could have less than 12 computers.
- ☐ C. A library could have more than 50 computers.
- ☐ D. All libraries must have less than 35 computers.
- ☐ E. At least 1 library does not have 12 computers.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
3	6.G.1	6.G.A.1	Geometry	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.

An advertising company is designing a new logo that consists of a shaded triangle inside a parallelogram.



20. Part A

What is the area, in square units, of parallelogram *ABCD*?

Enter your answer in the box.

Part B

In the new logo, what fraction of the parallelogram is shaded?

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

B. $\frac{1}{6}$

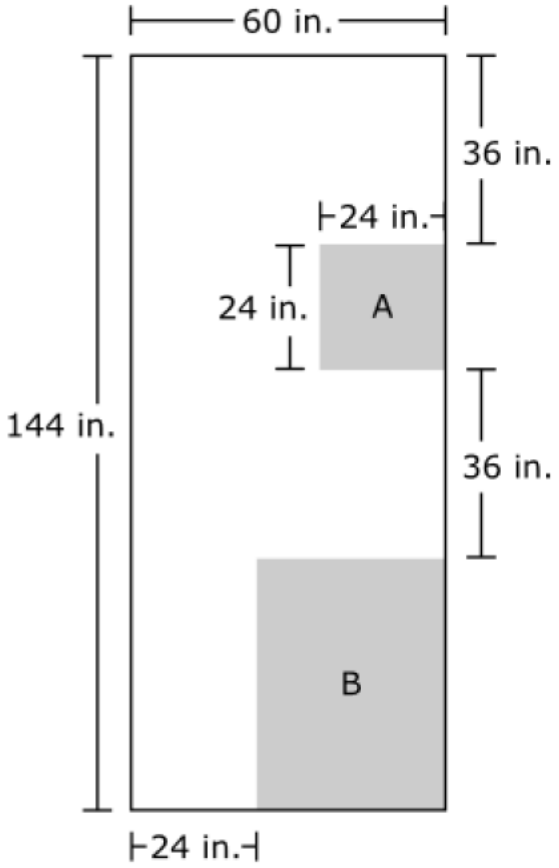
C. $\frac{1}{4}$

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

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
3	6.G.1	6.G.A.1	Geometry	PARCC Test Released Items Spring 2017

16.

A metal shop is cutting a rectangular piece of sheet metal with a width of 60 inches and a length of 144 inches. The shaded parts of the diagram represent two rectangular sections, A and B, that will be cut and removed.



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Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
3	6.G.1	6.G.A.1	Geometry	PARCC Test Released Items Spring 2017

Continued from previous page.

Part A

What are the dimensions of section B?

- A. 24 in. by 36 in.
- B. 24 in. by 96 in.
- C. 36 in. by 48 in.
- D. 36 in. by 96 in.

Part B

What will be the area, in square inches, of the piece of sheet metal after both sections are cut and removed?

Enter your answer in the box.

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

33. Part A

A group of hikers buys 8 bags of mixed nuts. Each bag contains $3\frac{1}{2}$ cups of mixed nuts. The mixed nuts are shared evenly among 12 hikers. How many cups of mixed nuts will each hiker receive? Show your work or explain your answer.

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

Part B

The hikers plan to visit a scenic lookout. They will rest after they hike 2 miles. Then they will hike the remaining $1\frac{3}{4}$ miles to the lookout. The trail the hikers will use to return from the lookout is $\frac{1}{2}$ mile shorter than the trail they will use to go to the lookout. Each hiker will bring $\frac{1}{4}$ gallon of water for each mile to and from the lookout.

- Determine the total distance, in miles, each hiker will hike. Show your work or explain your answer.
- Determine the total number of gallons of water each hiker will bring. Show your work or explain your answer.

Enter your answers and your work or explanations in the space provided.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
4	6.D.2	SHK	Modeling	PARCC Released Items Spring 2017

25.

Haley has some cubes. Each cube has a side length of 4 inches.

Part A

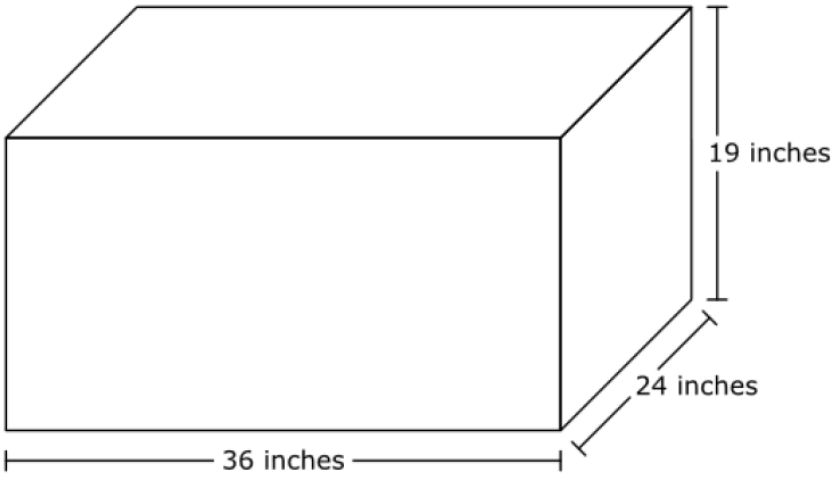
What is the volume, in cubic inches, of each cube?

Enter your answer in the box.

[ ] cubic inches

Part B

Haley is shipping these cubes in a wooden box. The inside measurements of the box are shown. Haley will put as many cubes in the box as possible. She wants to be able to close the box using a lid.



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Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
4	6.D.2	SHK	Modeling	PARCC Released Items Spring 2017

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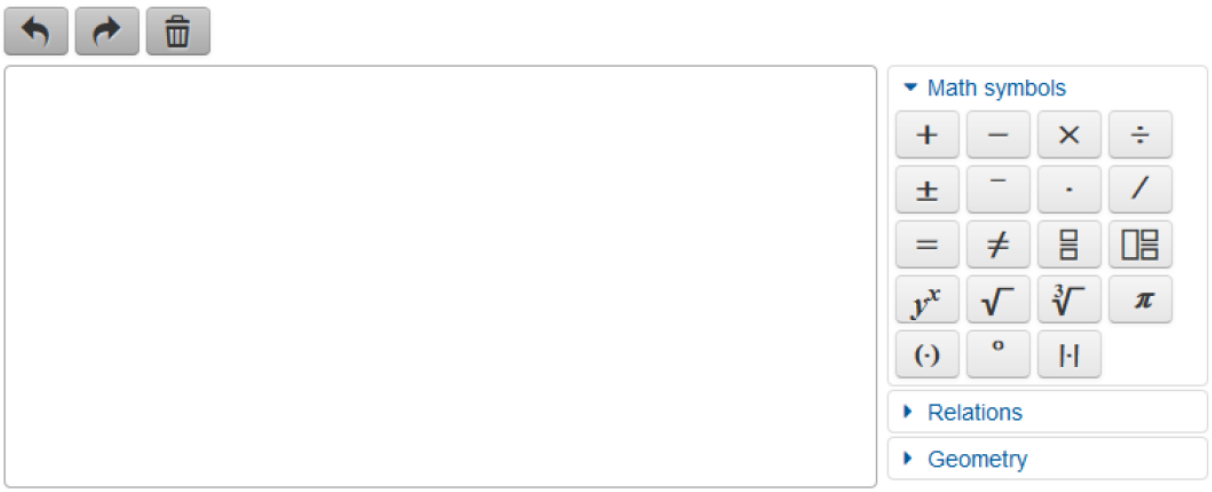
What is the **greatest** number of cubes that Haley can fit in the box and still be able to close the lid? Show or explain how you got your answer.

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

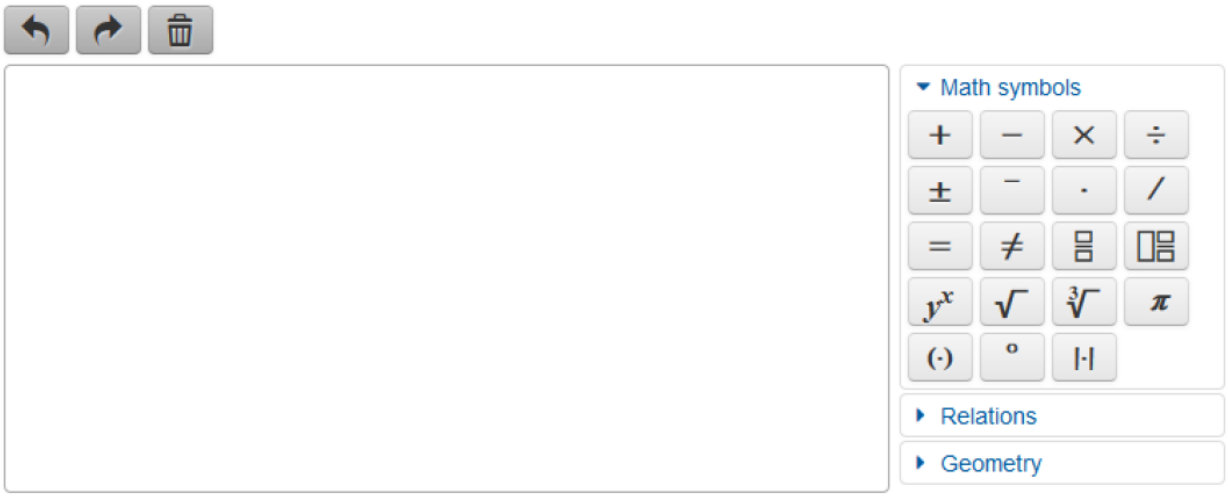


Part C

The remaining space in the box will be filled with packing material.

How much packing material will be needed to fill the remaining space? Express your answer in cubic inches. Show or explain how you got your answer.

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



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

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Difficulty Order	Evidence Statement	Common Core State Standards	Domains	Source
6	6.EE.2b	6.EE.A.2.B	Expressions & Equations	Illustrative Mathematics

6.EE Rectangle Perimeter 1

Task

To compute the perimeter of a rectangle you add the length, l and width, w and double this sum.

a. Write an expression for the perimeter of a rectangle.

b. Use the expression to find the perimeter of a rectangle with length 30 and width 75.

Difficulty Order	Evidence Statement	Common Core State Standards	Domains	Source
6	6.EE.2b	6.EE.A.2.B	Expressions & Equations	PARCC Released Items Spring 2017

15.

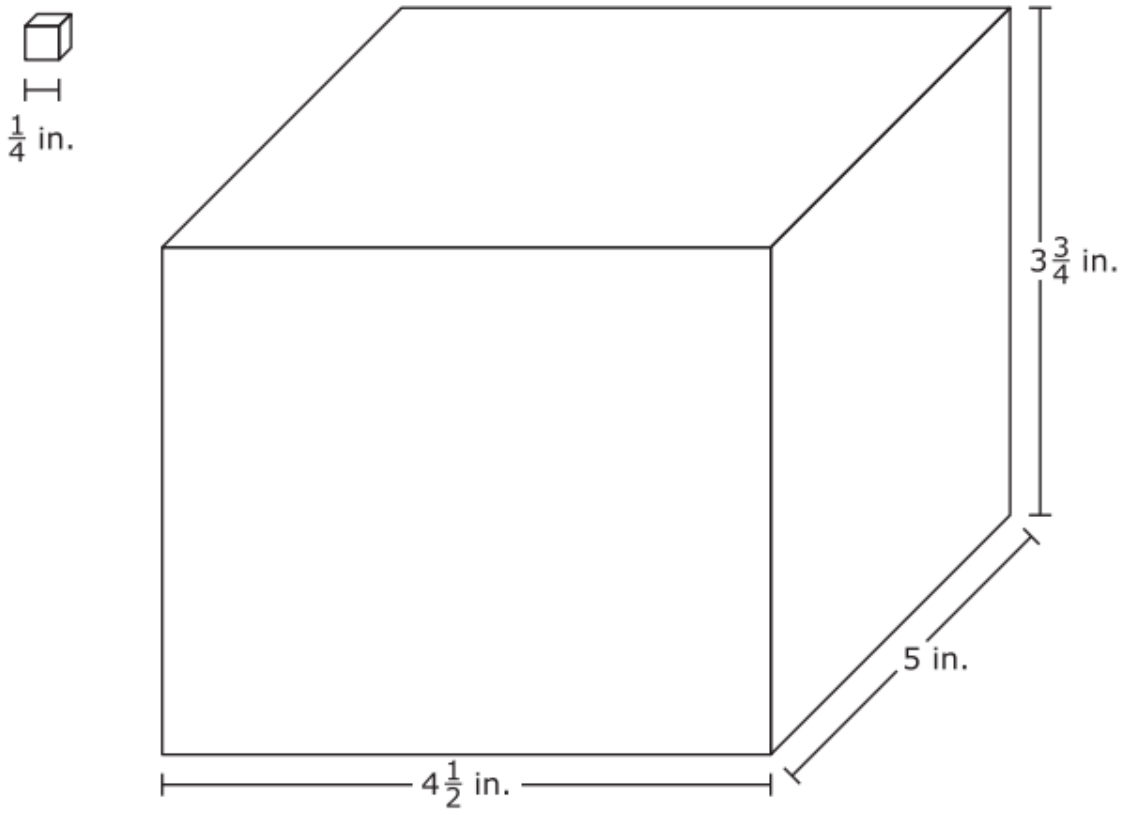
Annisa wrote an expression that represents "the product of 6.2 and the sum of $3c$ and 8." What are the factors of the expression?

Select **each** correct answer.

- ☐ A. 6.2
- ☐ B. $3c$
- ☐ C. 8
- ☐ D. $6.2 + 3c$
- ☐ E. $3c + 8$
- ☐ F. $6.2 + 8$

Difficulty Order	Evidence Statement	Common Core State Standards	Domain	Source
7	6.G.2-1	6.G.A.2	Geometry	MC^2 PARCC Practice Test Item Packets-Preparing for Spring 2017

11. Small cubes with edge lengths of $\frac{1}{4}$ inch will be packed into the right rectangular prism shown.



How many small cubes are needed to completely fill the right rectangular prism?

Enter your answer in the box.

Difficulty Order	Evidence Statement	Common Core State Standards	Domain	Source
8	6.EE.2c-1	6.EE.A.2.C	Expressions & Equations	MC^2 PARCC Practice Test Item Packets-Preparing for Spring 2017

25. What is the value of $a^2 + 3b \div c - 2d$, when a = 3, b=8, c=2, and d = 5? Enter your answer in the box.

Difficulty Order	Evidence Statement	Common Core State Standards	Domains	Source
9	6.RP.3c-2	6.RP.A.3.C	Ratios & Proportional Relationships	MC^2 PARCC Practice Test Item Packets-Preparing for Spring 2017

Use the information provided to answer Part A and Part B for question 36.

The number of blueberry muffins that a baker makes each day is 40% of the total number of muffins she makes.

36. Part A

On Monday, the baker makes 36 blueberry muffins.

What is the total number of muffins that the baker makes on Monday?

Enter your answer in the box.

Part B

On Tuesday, the baker makes a total of 60 muffins.

How many blueberry muffins does the baker make on Tuesday?

Enter your answer in the box.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
10	6.C.8-2	OGL	Reasoning	

Pending New PARCC Released Test Items

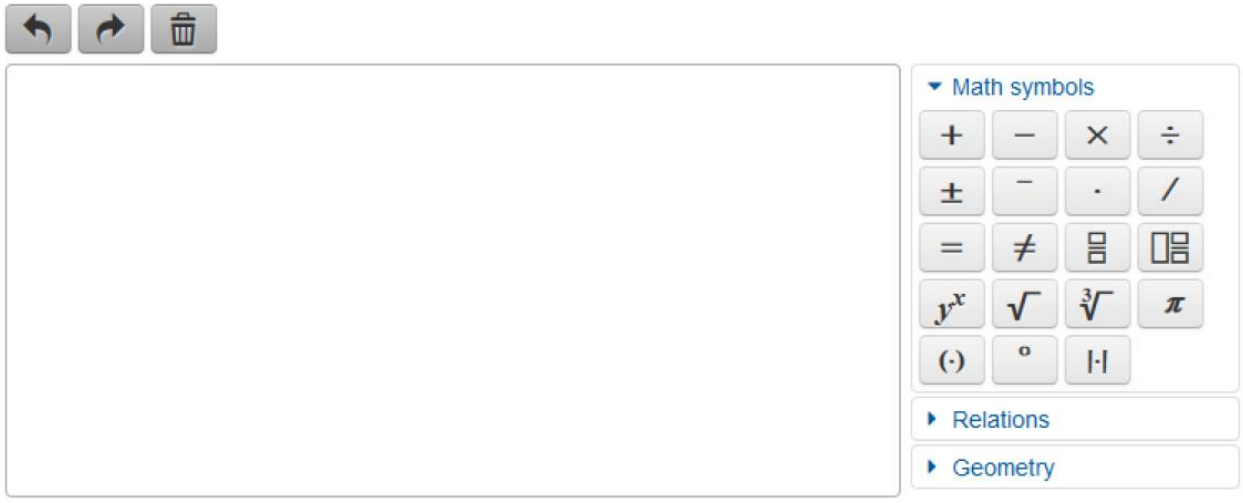
Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
11	6.C.8-1	OGL	Reasoning	PARCC Released Items Spring 2017

23.

A bag contains only red and blue marbles. There are a total of 36 marbles in the bag. There are 5 red marbles for every 4 blue marbles in the bag. A student removes 1 blue marble from the bag. The student reasons that there are now 5 red marbles in the bag for every 3 blue marbles since $4 - 1 = 3$.

- Explain the error in the student's reasoning.
- Compute the correct ratio of red to blue marbles after the student draws 1 blue marble. Show your work or explain your answer.

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



Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
12	6.NS.3-3	6.NS.B.3	The Number System	MC^2 PARCC Practice Test Item Packets-Preparing for Spring 2015

Enter your answer in the box.

$48.3 \times 7.39 =$ _____

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
12	6.NS.3-3	6.NS.B.3	The Number System	Illustrative Mathematics

6.NS Setting Goals

Illustrative Mathematics

Task

a. Seth wants to buy a new skateboard that costs $167. He has $88 in the bank. If he earns $7.25 an hour pulling weeds, how many hours will Seth have to work to earn the rest of the money needed to buy the skateboard?

b. Seth wants to buy a helmet as well. A new helmet costs $46.50. Seth thinks he can work 6 hours on Saturday to earn enough money to buy the helmet. Is he correct?

c. Seth's third goal is to join some friends on a trip to see a skateboarding show. The cost of the trip is about $350. How many hours will Seth need to work to afford the trip?

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
12	6.NS.3-3	6.NS.B.3	The Number System	PARCC Released Items Spring 2017

4.

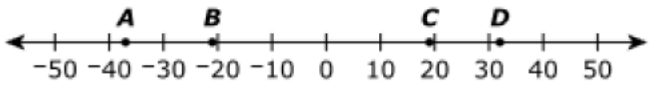
What is the product of 35.263 and 0.29?

Enter your answer in the box.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
13	6.NS.7c.1	6.NS.C.7.C	The Number System	PARCC Released Items Spring 2017

7.

Which point shows the location of the number with the greatest absolute value?



- A. point *A*
- B. point *B*
- C. point *C*
- D. point *D*

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
14	6.EE.4	6.EE.A.4	Expressions & Equations	MC^2 PARCC Practice Test Item Packets-Preparing for Spring 2017

9. Select each expression that is equivalent to $3(n + 6)$.

Select **all** that apply.

A. $3n + 6$

B. $3n + 18$

C. $2n + 2 + n + 4$

D. $2(n + 6) + (n + 6)$

E. $2(n + 6) + n$

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
14	6.EE.4	6.EE.A.4	Expressions & Equations	MC^2 PARCC Practice Test Item Packets-Preparing for Spring 2017

21. Brianna's teacher asks her which of these three expressions are equivalent to each other.

Expression A: $9x - 3x - 4$

Expression B: $12x - 4$

Expression C: $5x + x - 4$

Brianna says that all three expressions are equivalent because the value of each one is -4 when $x = 0$.

Brianna's thinking is incorrect.

- Identify the error in Brianna's thinking.
- Determine which of the three expressions are equivalent.
- Explain or show your process in determining which expressions are equivalent.

Enter your answers and your explanation or process in the space provided.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
14	6.EE.4	6.EE.A.4	Expressions & Equations	PARCC Released Items Spring 2017

8.

The area of Melanie's bedroom floor is 1.5 times the area of her kitchen floor. The area of her kitchen floor is k.

Select **each** of the following that represent the area of Melanie's bedroom floor.

- A. $1.5k$
- B. $k + 0.5$
- C. $k + 1.5$
- D. $k + 0.5k$
- E. $k + 1.5k$

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

17.

Part A

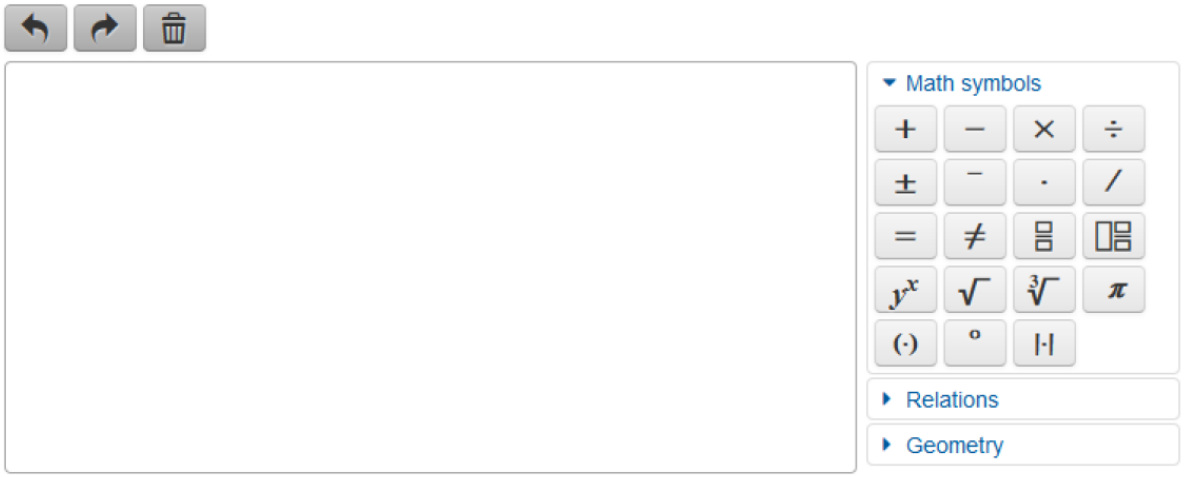
Select the location of -2 and -9 on the number line.

Select the places on the number line to plot the points.

Part B

Use mathematical symbols to write an inequality that compares -2 and -9. Explain how the number line can be used to show that your inequality is correct.

Enter your inequality and your explanation in the space provided.

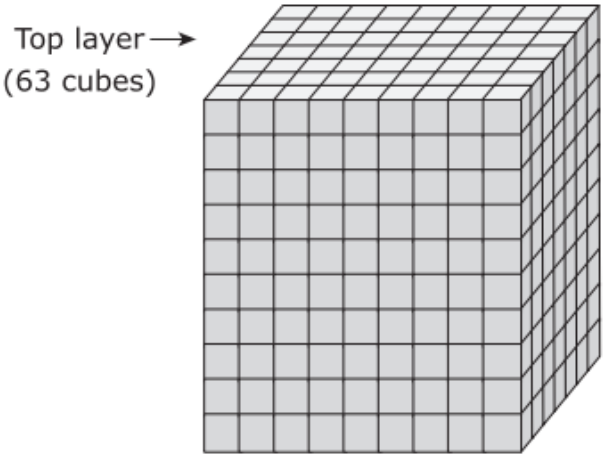


Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
16	6.C.9	SHK	Reasoning	MC^2 PARCC Practice Test Item Packets-Preparing for Spring 2017

Use the information provided to answer Part A and Part B for question 35.

A student filled a right rectangular prism-shaped box with one inch cubes to find the volume, in cubic inches. The student's work is shown.

Box Filled with Cubes



Student's Work

- I packed my box full of cubes. Each cube has a volume of 1 cubic inch.
- I counted 63 cubes in the top layer.
- Since there are 9 layers of cubes below the top layer, I solved 63 × 9 = 567. So there are 567 cubes.
- The volume of my box is 567 cubic inches.

35. Part A

Explain why the student's reasoning is incorrect. Provide the correct volume, in cubic inches, of the box.

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

Part B

A second box also has a base area of 63 square inches, but it has a volume of 756 cubic inches.

What is the height, in inches, of the second box? Explain or show how you determined the height.

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

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
16	6.C.9	SHK	Reasoning	PARCC Test Items Spring 2017

27.

Diego will ship 8 boxes in a large carton that is the shape of a right rectangular prism. Each box is 13 inches by 5 inches by 6 inches.

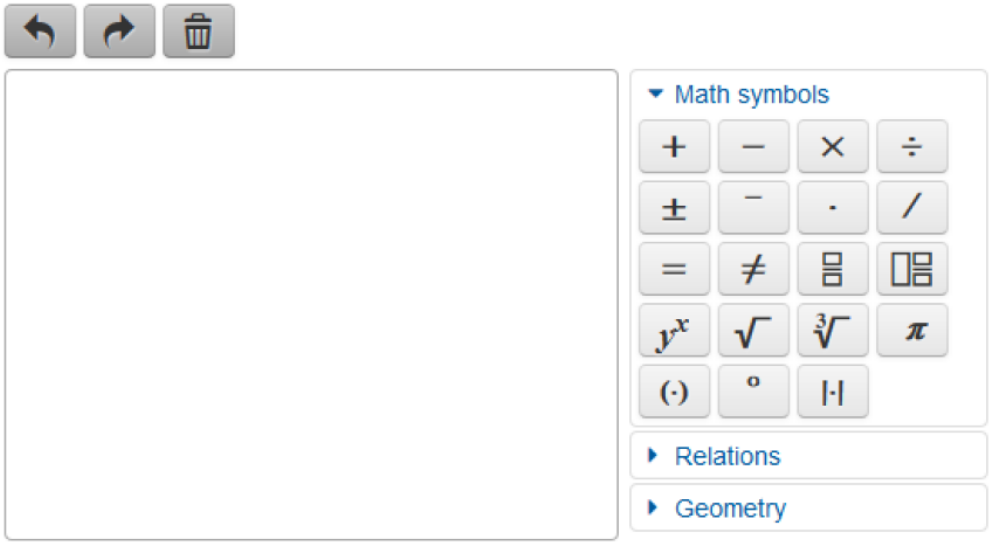
Part A

Diego determined the volume of one box by calculating $(13 + 5 + 13 + 5) \times 6$.

Determine whether Diego is correct or incorrect.

- If Diego is correct, show or explain how you know.
- If Diego is incorrect, find the correct answer and show or explain the steps you used to find the correct answer. Include the correct answer in your work or explanation.

Enter your work or explanation in the space provided.



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Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
16	6.C.9	SHK	Reasoning	PARCC Test Items Spring 2017

Continued from previous page.

Part B

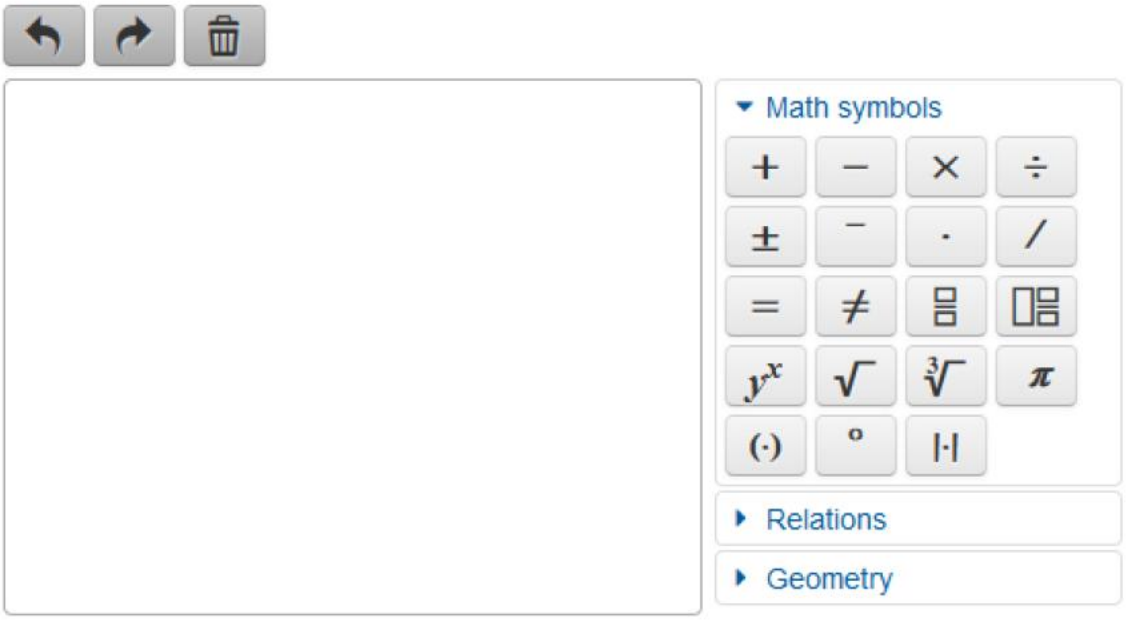
Diego has three differently sized cartons that he can use to ship the 8 boxes. He can turn the boxes to make them fit in the carton. Diego will choose one carton to ship all 8 boxes.

- Carton A: 10 inches by 13 inches by 28 inches
- Carton B: 10 inches by 14 inches by 22 inches
- Carton C: 11 inches by 12 inches by 26 inches

Diego will fill any extra space with packing material. He will choose the carton that will hold all 8 boxes completely and use the least amount of packing material.

Which carton should Diego choose to ship the 8 boxes? Show or explain all of the steps you used to find your answer.

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



Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
17	6.NS.3-4	6.NS.B.3	The Number System	MC^2 PARCC Practice Test Item Packets-Preparing for Spring 2017

4. Enter your answer in the box.

$33.8 \div 32.5$

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

37. Sam's two new aquariums each hold exactly 200 gallons of water. One aquarium will hold small fish and the other will hold large fish. Now he needs new fish for his aquariums.

- He will buy 5 small fish for every 10 gallons of water in the aquarium.
- He will buy 8 large fish for every 40 gallons of water in the aquarium.

What is the total number of fish Sam will have? What will be the ratio of Sam's small fish to large fish? Show or explain the steps you used to solve this problem.

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

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

28.

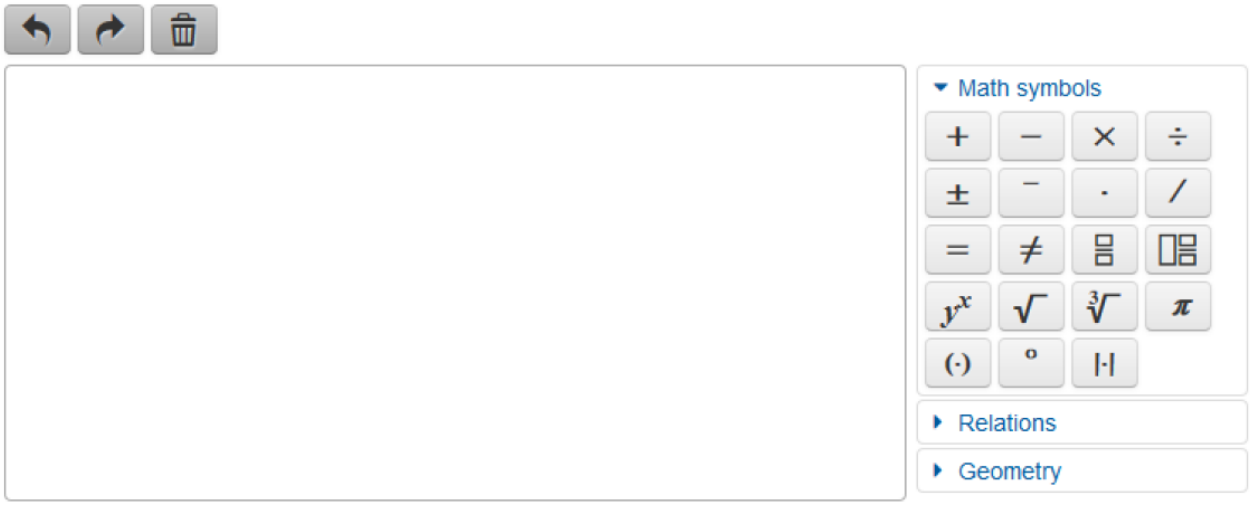
This table shows the 24 prizes a teacher had in a box.

Prize	Number in the Box
Bookmark	12
Pencil	8
Poster	4

The teacher will add more prizes to the box. He does not want to change the ratios among the three types of prizes. If he adds 2 more pencils to the box, how many more bookmarks and how many more posters should he add to the box?

In the space below, show all the steps you used to solve the problem.

Enter your answers and your work in the space provided.



Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
19	6.SP.1	6.SP.A.1	Statistics & Probability	MC^2 PARCC Practice Test Item Packets-Preparing for Spring 2017

14. Which question is a statistical question?

A. How tall is the oak tree?

B. How much did the tree grow in one year?

C. What are the heights of the oak trees in the schoolyard?

D. What is the difference in height between the oak tree and the pine tree?

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
20	6.EE.5-2	6.EE.B.5	Expressions & Equations	MC^2 PARCC Practice Test Item Packets-Preparing for Spring 2017

22. Let x represent any number in the set of even integers greater than 1.

Which inequality is true for all values of x?

A. $x < 0$

B. $x > 0$

C. $x < 4$

D. $x > 4$

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
20	6.EE.5-2	6.EE.B.5	Expressions & Equations	PARCC Released Items Spring 2017

18.

Which of the given values will make the inequality $n - 93 > 175$ true?

Select **all** that apply.

- ☐ A. $n = 82$
- ☐ B. $n = 105$
- ☐ C. $n = 268$
- ☐ D. $n = 300$
- ☐ E. $n = 312$

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
21	6.EE.9	6.EE.C.9	Expressions & Equations	MC^2 PARCC Practice Test Item Packets-Preparing for Spring 2017

A school band performed a concert on four different days. The band sold tickets and snacks each day of the concert for a fundraiser. The first table shows the numbers of tickets sold and the amounts of money collected from ticket sales. The second table shows the numbers of snacks sold and the amounts of money collected from snack sales.

Concert Ticket Sales

Day	Number of Tickets Sold	Amount Collected (dollars)
1	50	275.00
2	47	258.50
3	62	341.00
4	75	412.50

Snack Sales

Day	Number of Snacks Sold	Amount Collected (dollars)
1	43	53.75
2	36	45.00
3	60	75.00
4	65	81.25

Part A

If each snack costs the same price, what is the price per snack?

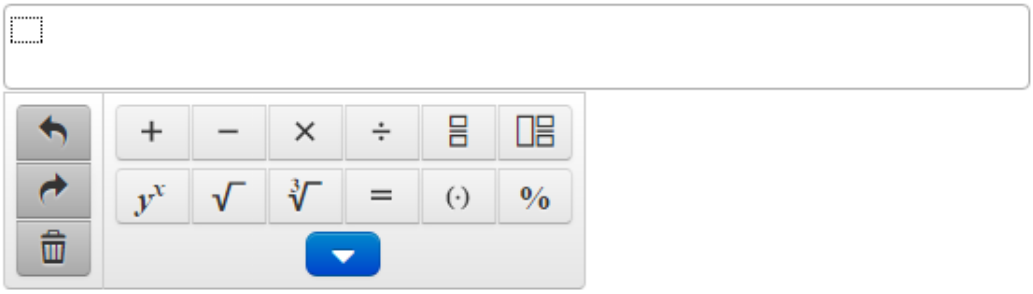
Enter your answer in the box.

$ ☐

Part B

Write an equation that can be used to find y, the amount of money collected for selling x concert tickets.

Enter your equation in the space provided. Enter **only** your equation.



Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
22	6.RP.3b	6.RP.A.3.B	Ratios & Proportional Relationships	MC^2 PARCC Practice Test Item Packets-Preparing for Spring 2017

Use the information provided to answer Part A through Part D for question 26.

Chad drove 168 miles in 3 hours.

26. Part A

How many miles per hour did Chad drive?

Enter your answer in the box.

Part B

Chad will drive 672 more miles. He continues to drive at the same rate.

How many hours will it take Chad to drive the 672 miles?

Enter your answer in the box.

Part C

Chad stopped and filled the car with 11 gallons of gas. He had driven 308 miles using the previous 11 gallons of gas.

How many miles per gallon did Chad's car get?

Enter your answer in the box.

Part D

Chad's car continues to get the same number of miles per gallon.

How many gallons of gas will Chad's car use to travel 672 miles?

Enter your answer in the box.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
22	6.RP.3b	6.RP.A.3.B	Ratios & Proportional Relationships	PARCC Released Items Spring 2017

21.

A store sells packages of grape drink mix and strawberry drink mix.

- To make 8 quarts of grape drink, 19 ounces of grape drink mix are needed.
- To make 17 quarts of strawberry drink, 2 ounces of strawberry drink mix are needed.

For the grape drink mix, the total cost of 4 packages is $11.

Part A

What is the cost, in dollars, of 5 packages of the grape drink mix?

Enter your answer in the box.

Part B

What is the maximum number of packages of grape drink mix that can be purchased with $25?

A. 9

B. 10

C. 68

D. 69

Continued on next page.

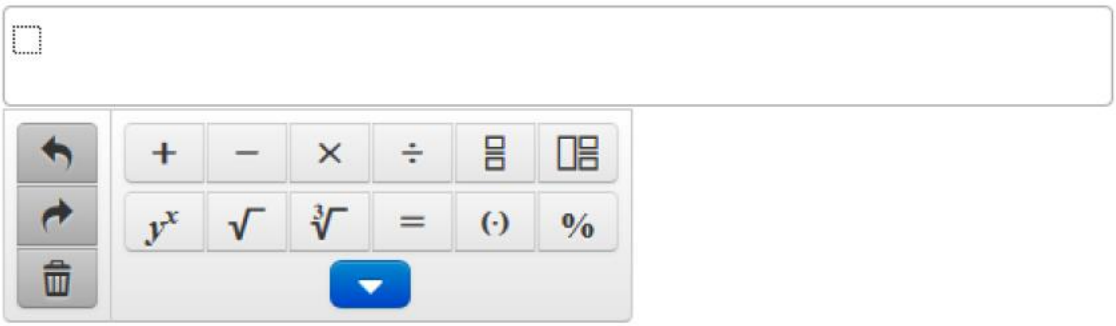
Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
22	6.RP.3b	6.RP.A.3.B	Ratios & Proportional Relationships	PARCC Released Items Spring 2017

Continued from previous page.

Part C

How many ounces of grape drink mix are needed to make 12 quarts of grape drink?

Enter your answer in the space provided. Enter **only** your answer.



Part D

Compare the amount, in quarts, of each drink that can be made with 4 ounces of each type of drink mix.

Select from the drop-down menus to correctly complete each statement.

4 ounces of grape drink mix make approximately [0.4 / 1.7 / 2 / 32 / 38] quarts of grape drink.

4 ounces of strawberry drink mix make approximately [4.25 / 8.5 / 34 / 68] quarts of strawberry drink.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
23	6.EE.2a	6.EE.A.2C	Expressions &Equations	MC^2 PARCC Practice Test Item Packets-Preparing for Spring 2017

19. Which expression represents "6 more than x"?

A. $x - 6$

B. $6 \cdot x$

C. $x + 6$

D. $6 - x$

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
23	6.EE.2a	6.EE.A.2C	Expressions &Equations	PARCC Released Items Spring 2017

20.

Which expressions represent "the product of $\frac{3}{4}$ and c"?

Select **each** correct answer.

- ☐ A. $\frac{3}{4}c$
- ☐ B. $\frac{3}{4} + c$
- ☐ C. $\frac{3}{4c}$
- ☐ D. $\frac{3}{4} - c$
- ☐ E. $\frac{3c}{4}$

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
24	6.EE.2c-2	6.EE.A.2.C	Expressions & Equations	Illustrative Mathematics

6.EE Rectangle Perimeter 3

Note: Part B addressess the standard 6.EE.A.2.C more closely.

Illustrative Mathematics

Task

Sadie computes the perimeter of a rectangle by adding the length, l, and width, w, and doubling this sum. Eric computes the perimeter of a rectangle by doubling the length, l, doubling the width, w, and adding the doubled amounts.

a. Write an expression for Sadie's way of calculating the perimeter. Write an expression for Eric's way as well.

b. Use both of the expressions to find the perimeter of a rectangle with length 30 and width 75.

c. Explain why Sadie and Eric always get the same answer, no matter what the length and width of the rectangle are.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
25	6.C.2	OGL	Reasoning	

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Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
26	6.SP.5	6.SP.B.5 6.SP.B.5.C	Statistics & Probability	MC^2 PARCC Practice Test Item Packets-Preparing for Spring 2017

Use the information provided to answer Part A and Part B for question 38.

Janet surveyed a class of students. She recorded the number of hours that each student volunteered. This line plot shows the results of the survey.

38. Part A

How many students did Janet survey?

Enter your answer in the box.

Part B

What is the mean number of hours volunteered by the students in the survey?

Enter your answer in the box.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
26	6.SP.5	6.SP.B.5 6.SP.B.5.C	Statistics & Probability	PARCC Released Items Spring 2017

29.

The managers of 21 supermarkets counted the number of cars in their parking lots at noon on the same day. The results are shown in the list.

98, 100, 101, 102, 108, 109, 111, 118, 129, 132, 133, 135, 135, 145, 146, 146, 156, 170, 176, 180, 180

Part A

What is the interquartile range of the number of cars in the parking lots at noon at the 21 supermarkets?

Enter your answer in the box.

Part B

Suppose the number of cars in one of the parking lots with 180 cars is changed to 160 cars. Which statement about the median and interquartile range after this change is true?

A. The median and the interquartile range do not change.

B. The median and the interquartile range both decrease.

C. The median decreases, and the interquartile range does not change.

D. The median does not change, and the interquartile range decreases.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
27	6.NS.1-2	6.NS.A.1	The Number System	MC^2 PARCC Practice Test Item Packets-Preparing for Spring 2017

2. The area of a rectangular patio is $5\frac{5}{8}$ square yards, and its length is $1\frac{1}{2}$ yards. What is the patio's width, in yards?

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

B. $4\frac{1}{8}$

C. $7\frac{1}{8}$

D. $8\frac{7}{16}$

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
27	6.NS.1-2	6.NS.A.1	The Number System	MC^2 PARCC Practice Test Item Packets-Preparing for Spring 2017

15. Joanne buys a rectangular rug with an area of $\frac{35}{4}$ square meters. The length of the rug is $\frac{7}{2}$ meters.

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

A. $\frac{5}{8}$

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

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

D. $\frac{7}{2}$

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
27	6.NS.1-2	6.NS.A.1	The Number System	MC^2 PARCC Practice Test Item Packets-Preparing for Spring 2017

Carol makes $9\frac{1}{3}$ cups of snack mix. She puts all the snack mix into plastic bags. She puts $\frac{2}{3}$ cup of the snack mix in each bag.

How many plastic bags does Carol need?

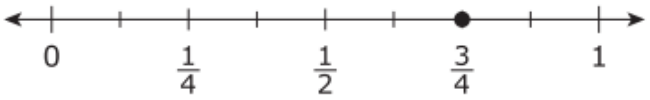
Enter your answer in the box.

[ ] plastic bags

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
27	6.NS.1-2	6.NS.A.1	The Number System	MC^2 PARCC Practice Test Item Packets-Preparing for Spring 2017

Use the information provided to answer Part A and Part B for question 31.

This diagram shows a number line.



31. Part A

James has a board that is $\frac{3}{4}$ foot long. He wants to cut the board into pieces that are each $\frac{1}{8}$ foot long.

How many pieces can James cut from the board? Explain how James can use the number line diagram to determine the number of pieces he can cut from the board.

Enter your answer and your explanation in the space provided.

Part B

Write an equation using division that represents how James can find the number of pieces he can cut from the board.

Enter your equation in the space provided.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
27	6.NS.1-2	6.NS.A.1	The Number System	PARCC Released Items Spring 2017

2.

Marilyn has $\frac{7}{8}$ yard of ribbon. What is the maximum number of $\frac{1}{16}$ yard-long pieces Marilyn can cut from this ribbon?

Enter your answer in the box.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
27	6.NS.1-2	6.NS.A.1	The Number System	PARCC Released Items Spring 2017

11.

The width of stamp M is $\frac{4}{3}$ inches, and the length is $\frac{7}{5}$ inches. The dimensions of stamp M are $\frac{7}{6}$ times the dimensions of stamp P. What is the length of stamp P, in inches?

A. $\frac{6}{5}$

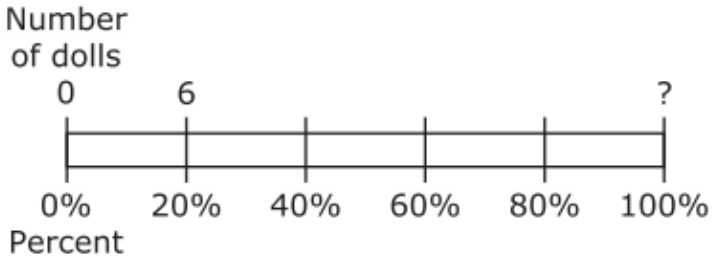
B. $\frac{8}{7}$

C. $\frac{14}{9}$

D. $\frac{49}{30}$

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
28	6.RP.3c-1	6.RP.A.3.C	Ratios & Proportional Relationships	MC^2 PARCC Practice Test Item Packets-Preparing for Spring 2017

23. Anita brings 6 dolls to her grandma's house. These dolls represent 20% of Anita's doll collection, as shown in the diagram.



What is the total number of dolls in Anita's doll collection?

Enter your answer in the box.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
28	6.RP.3c-1	6.RP.A.3.C	Ratios & Proportional Relationships	PARCC Released Items Spring 2017

19.

In a store, 1 can of soup costs $1.80. The store also sells a pack of 6 cans of the soup. A customer who buys 1 pack saves 15% compared to buying 6 cans separately. How much money does a customer save by buying 1 pack instead of buying 6 cans separately?

Enter your answer in the box.

$ ☐

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
29	6.D.3	OGL	Modeling	MC^2 PARCC Practice Test Item Packets-Preparing for Spring 2017

24. A company makes yellow golf balls and white golf balls. The table shows the company's sales of yellow golf balls for the last 3 years.

Yellow Golf Balls

Year	Number of Yellow Golf Balls Sold
1	204,132
2	225,624
3	237,108

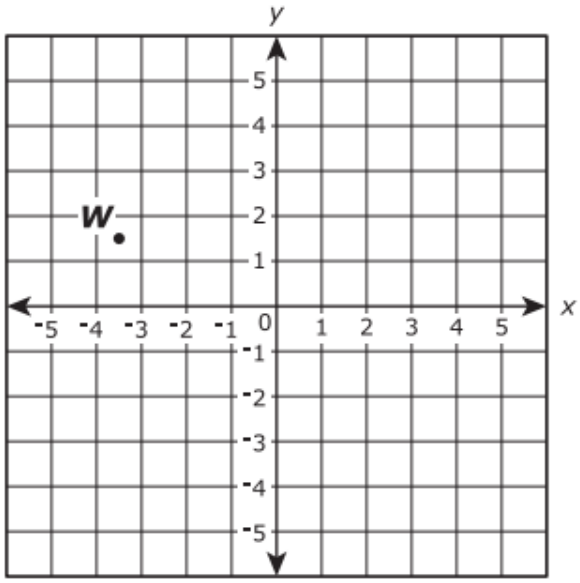
- The company expects sales of yellow golf balls to continue to increase in year 4.
- The company also expects the ratio of yellow golf ball sales to white golf ball sales in year 4 to be about 1 : 5 .
- The average selling price of a box of 12 yellow or 12 white golf balls is $23.94.

Estimate the company's total sales, in dollars, of golf balls in year 4. Show all your work. Explain how you determined your estimate.

Enter your estimate, your work, and your explanation in the space provided.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
30	6.NS.6c-2	6.NS.C.6.C	The Number System	MC^2 PARCC Practice Test Item Packets-Preparing for Spring 2017

3. This coordinate plane shows the location of point *W*.



What is the value of the *x*-coordinate of point *W*? Enter your answer as a decimal to the nearest 0.5.

Enter your answer in the box.

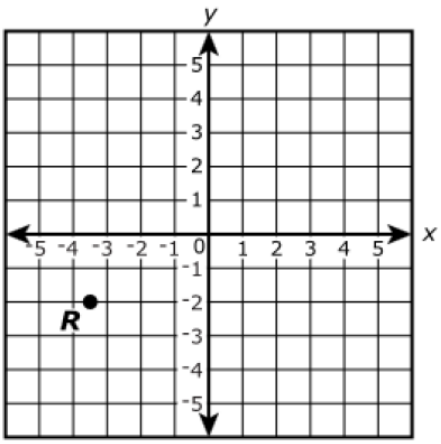
Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
30	6.NS.6c-2	6.NS.C.6.C	The Number System	PARCC Released Items Spring 2017

13.

Point R is graphed on the coordinate grid. What are the coordinates that best represent the location of point R ?

Drag and drop the correct number into each box of the ordered pair.

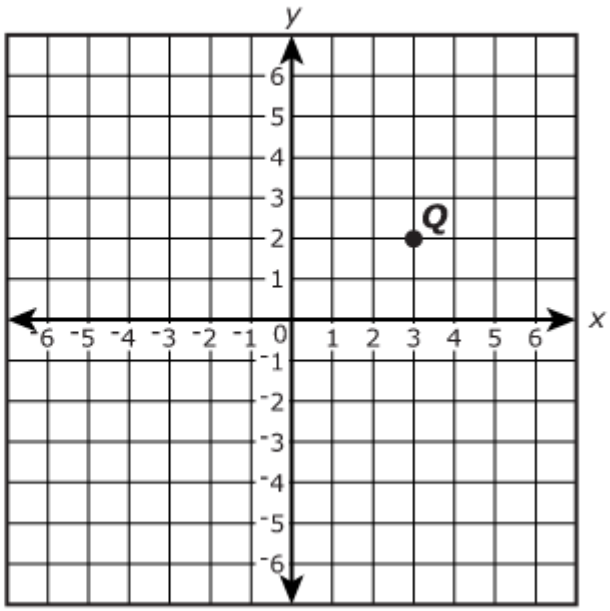
0	1	2	3	4	−1	−2	−3	−4	$\frac{1}{2}$	$\frac{3}{2}$	$\frac{5}{2}$	$\frac{7}{2}$	$-\frac{1}{2}$	$-\frac{3}{2}$	$-\frac{5}{2}$	$-\frac{7}{2}$	$\frac{3}{5}$	$-\frac{3}{5}$



R (☐ , ☐)

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
31	6.NS.6b-2	6.NS.C.6.B	The Number System	MC^2 PARCC Practice Test Item Packets-Preparing for Spring 2017

Point Q is plotted on the coordinate plane.



Point Q is reflected across the *x*-axis.

What are the coordinates of the reflection of point Q?

Enter your answer in the space provided. Enter **only** your answer.

(,)

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
32	6.NS.4-2	6.NS.B.4	The Number System	Illustrative Mathematics

6.NS Bake Sale

Illustrative Mathematics

Task

a. Lindy is having a bake sale. She has 48 chocolate chip cookies to put in bags. How many bags can she fill if she puts the same number in each bag and uses them all? Find all the possibilities. Explain your reasoning.

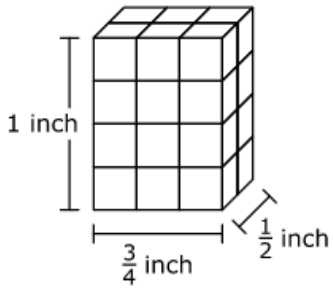
b. Lindy has 64 vanilla wafer cookies to put in bags. How many bags can she fill if she puts the same number in each bag and uses them all? Find all the possibilities. Explain your reasoning.

c. How many bags can Lindy fill if she puts the chocolate chip cookies and the vanilla wafers in the same bags? She plans to use all the cookies and wants to include an equal number of chocolate chip cookies and an equal number of vanilla wafers in each bag. Explain your reasoning.

d. What is the largest number of bags she can make with an equal number of chocolate chip cookies and an equal number of vanilla wafers in each bag (assuming she uses them all)? Explain your reasoning.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
33	6.G.2-2	6.G.A.2	Geometry	MC^2 PARCC Practice Test Item Packets-Preparing for Spring 2017

This right rectangular prism is built with small cubes.



Part A

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

Enter your answer in the space provided. Enter **only** your fraction.

Part B

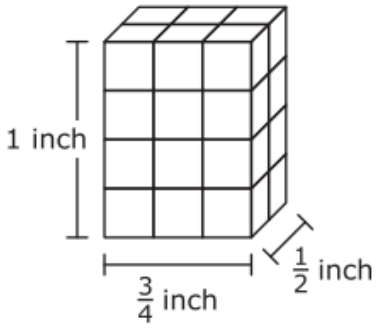
What is the volume, in cubic inches, of 1 of the small cubes?

Enter your answer in the space provided. Enter **only** your fraction.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
33	6.G.2-2	6.G.A.2	Geometry	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.

This right rectangular prism is built with small cubes.



34. Part A

What is the volume, in cubic inch(es), of the right rectangular prism?

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

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

C. $1\frac{2}{3}$

D. $2\frac{1}{4}$

Part B

What is the volume, in cubic inch(es), of 1 of the small cubes?

A. $\frac{1}{64}$

B. $\frac{1}{16}$

C. $\frac{9}{16}$

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

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
34	6.NS.4-1	6.NS.B.4	The Number System	MC^2 PARCC Practice Test Item Packets-Preparing for Spring 2017

8. What is the greatest common factor of 16 and 48?

Enter your answer in the box.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
35	6.NS.7c-2	6.NS.C.7.C	The Number System	

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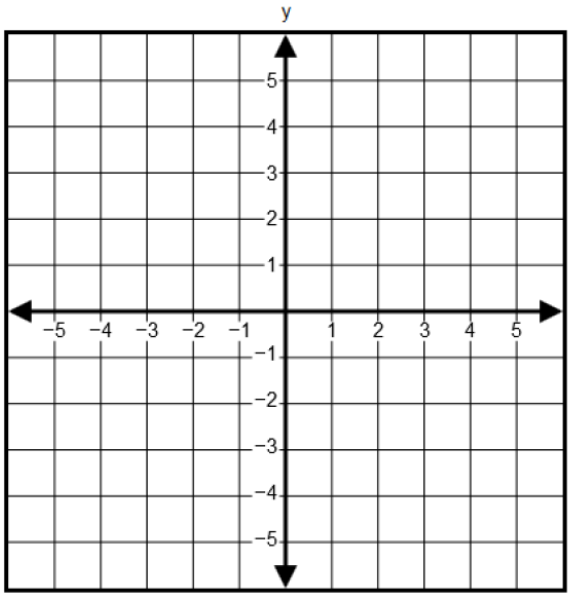
Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
36	6.G.3	6.G.A.3	Geometry	PARCC Released Items Spring 2017

26.

Part A

Triangle *PQR* is a right triangle. The triangle has vertices at $P(-2, 4)$, $Q(3, 4)$ and $R(-2, -2)$. Graph the triangle on the coordinate plane. To graph a triangle, plot all the vertices on the coordinate plane.



Part B

What is the length of segment *PQ*?

Enter your answer in the box.

[ ] units

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
37	6.RP.3d	6.RP.A.3D	Ratios & Proportional Relationships	MC^2 PARCC Practice Test Item Packets-Preparing for Spring 2017

27. There are 5,280 feet in 1 mile. How many inches are in 2 miles?

A. 10,560

B. 63,360

C. 126,720

D. 253,440

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
37	6.RP.3d	6.RP.A.3D	Ratios & Proportional Relationships	MC^2 PARCC Practice Test Item Packets-Preparing for Spring 2017

Hank bought 5 meters of ribbon for $4.

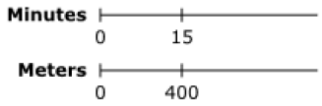
Use the drop-down menus to complete the sentence.

The ribbon costs [Choose...] per [Choose...].

$.008	millimeter
$.08	centimeter
$.80	kilometer

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
37	6.RP.3d	6.RP.A.3D	Ratios & Proportional Relationships	PARCC Released Items Spring 2017

22.



The diagram shows the distance a tortoise can walk if it walks at a constant pace for 15 minutes.

At the same rate, how many **kilometers** can the tortoise walk in 1 hour? Write your answer as a decimal.

Enter your answer in the box.

[ ] kilometers

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
38	6.NS.7b	6.NS.C.7.B	The Number System	Illustrative Mathematics

6.NS Comparing Temperatures

Illustrative Mathematics

Task

a. Here are the low temperatures (in Celsius) for one week in Juneau, Alaska:

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
5	-1	-6	-2	3	7	0

Arrange them in order from coldest to warmest temperature.

b. On a winter day, the low temperature in Anchorage was 23 degrees below zero (in $^\circ C$) and the low temperature in Minneapolis was 14 degrees below zero (in $^\circ C$). Sophia wrote,

Minneapolis was colder because $-14 < -23$.

Is Sophia correct? Explain your answer.

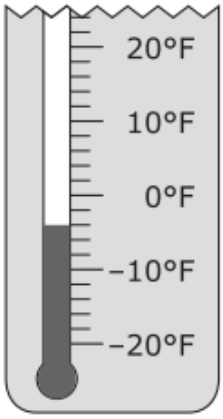
c. The lowest temperature ever recorded on earth was $-89^\circ C$ in Antarctica. The average temperature on Mars is about $-55^\circ C$. Which is warmer, the coldest temperature on earth or the average temperature on Mars? Write an inequality to support your answer.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
39	6.NS.3-2	6.NS.B.3	The Number System	

Pending New PARCC Released Test Items

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
40	6.NS.6c-1	6.NS.C.6.C	The Number System	MC^2 PARCC Practice Test Item Packets-Preparing for Spring 2017

12. The picture shows part of a thermometer measuring temperature in degrees Fahrenheit.



What is the temperature, in degrees Fahrenheit, shown on the thermometer to the nearest integer?

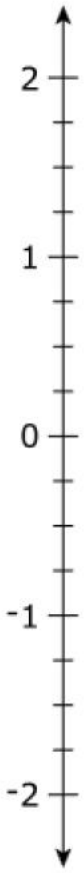
Enter your integer answer in the box.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
40	6.NS.6c-1	6.NS.C.6.C	The Number System	PARCC Released Items Spring 2017

10.

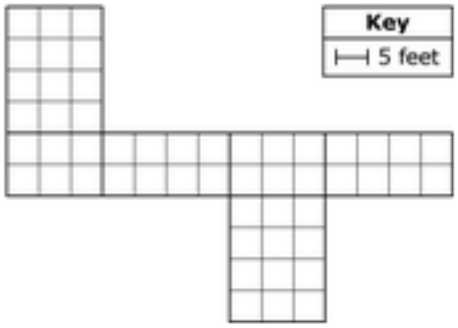
Plot the point $-1\frac{1}{2}$ on the number line.

Select a place on the number line to plot the point.



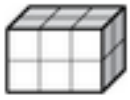
Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
41	6.G.4	6.G.A.4	Geometry	MC^2 PARCC Practice Test Item Packets-Preparing for Spring 2015

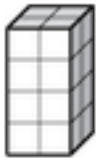
This is a net of a right rectangular prism.

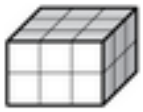


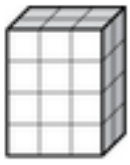
Part A

Which prism can be made using the net?

A. 

B. 

C. 

D. 

Part B

What is the surface area, in square feet, of the prism?

square feet

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
42	6.NS.7d	6.NS.C.7d	The Number System	

Pending New PARCC Released Test Items

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
43	6.EE.8	6.EE.B.8	Expressions and Equations	MC^2 PARCC Practice Test Item Packets-Preparing for Spring 2017

Cirrus clouds form more than 6,000 meters above Earth. Write an inequality to represent h , the height, in meters, of cirrus clouds.

Enter your answer in the space provided. Enter **only** your inequality.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
44	6.RP.2	6.RP.A.2	Ratios & Proportional Relationships	MC^2 PARCC Practice Test Item Packets-Preparing for Spring 2017

37. Sam's two new aquariums each hold exactly 200 gallons of water. One aquarium will hold small fish and the other will hold large fish. Now he needs new fish for his aquariums.

- He will buy 5 small fish for every 10 gallons of water in the aquarium.
- He will buy 8 large fish for every 40 gallons of water in the aquarium.

What is the total number of fish Sam will have? What will be the ratio of Sam's small fish to large fish? Show or explain the steps you used to solve this problem.

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

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
45	6.C.6	OGL	Reasoning	

Pending New PARCC Released Test Items

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
46	6.NS.2	6.NS.B.2	The Number System	MC^2 PARCC Practice Test Item Packets-Preparing for Spring 2017

6. Enter your answer in the box.
   $34{,}992 \div 81$

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
46	6.NS.2	6.NS.B.2	The Number System	PARCC Released Items Spring 2017

6.

What is the quotient of $28,435 \div 47$?

Enter your answer in the box.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
47	6.EE.7	6.EE.B.7	Expressions & Equations	MC^2 PARCC Practice Test Item Packets-Preparing for Spring 2017

Kellie bought 8 towels and spent $39.60. Each towel costs the same amount.

Part A

Use the drop-down menus to create an equation that can be used to determine t , the price, in dollars, of 1 towel.

t [Choose...] [Choose...] = [Choose...]

+	8	8
-	39.60	39.60
x		
÷		

Part B

What is the price, in dollars, of 1 towel?

Enter your answer in the box.

$ [ ]

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
47	6.EE.7	6.EE.B.7	Expressions & Equations	PARCC Released Items Spring 2017

24.

Joanna earns $12 per hour at her job. Last week, Joanna earned $432.

Part A

Which equation can be used to determine the number of hours (h) Joanna worked last week?

A. $h + 12 = 432$

B. $432h = 12$

C. $12h = 432$

D. $\frac{1}{12}h = 432$

Part B

What is the number of hours Joanna worked last week?

Enter your answer in the box.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
48	6.Int.1	6.NS.B.2 6.NS.B.3	The Number System	MC^2 PARCC Practice Test Item Packets-Preparing for Spring 2017

16. Thomas buys a case of bottled water. A case contains 36 bottles of water and costs $4.69. Thomas will sell each bottle of water for $0.75 at a school event.

How much profit, in dollars, will Thomas earn if he sells all the bottles of water?

Enter your answer in the box.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
48	6.Int.1	6.NS.B.2 6.NS.B.3	The Number System	PARCC Released Items Spring 2017

12.

Tracy bought 5 trays of plants for $105.

- Each tray contained 12 plants.
- Each plant cost the same amount.
- Plants can be purchased individually.

How much more money will Tracy need to spend for 15 additional plants?

Enter your answer in the box.

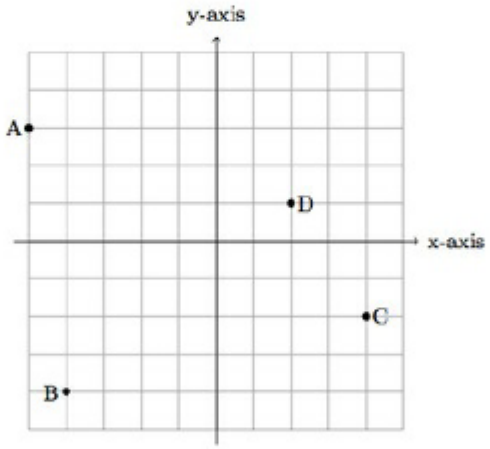
$ ☐

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
49	6.NS.6b-1	6.NS.C.6.B	The Number System	Illustrative Mathematics

6.NS Reflecting points over coordinate axes

Task

Below are some points in the coordinate plane:



a. Find the coordinates of the points.

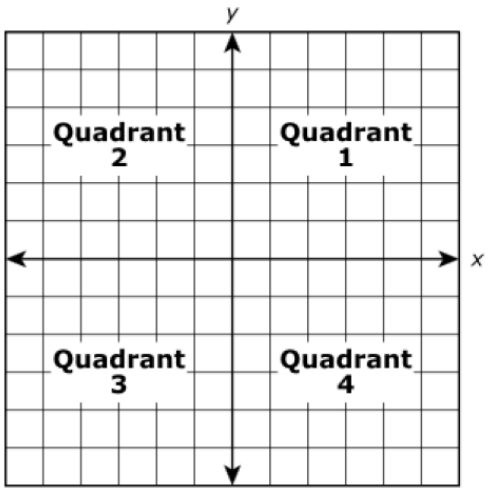
b. Reflect the points over the x-axis and find the coordinates of the new points: label the reflection of point A as A', the reflection of B as B', the reflection of C as C', and the reflection of D as D'.

c. Reflect the points from (b) over the y-axis: label the reflection of point A' as A'', the reflection of B' as B'', the reflection of C' as C'', and the reflection of D' as D''.

d. How do the points A'', B'', C'', D'' from (c) relate to the points A, B, C, and D?

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
49	6.NS.6b-1	6.NS.C.6.B	The Number System	PARCC Released Items Spring 2017

3.



In which quadrant of the coordinate plane would the point $\left(-10, 30\frac{1}{2}\right)$ be located?

A. Quadrant 1

B. Quadrant 2

C. Quadrant 3

D. Quadrant 4

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
50	6.EE.6	6.EE.B.6	Expressions & Equations	MC^2 PARCC Practice Test Item Packets-Preparing for Spring 2017

13. Marshall took \$36.75 to a fair. Each ticket into the fair costs x dollars. Marshall bought 3 tickets. Which expression represents the amount of money, in dollars, that Marshall had after he bought the tickets?

A. $36.75 - (3 + x)$

B. $36.75x - 3$

C. $36.75(3) - x$

D. $36.75 - 3x$

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
50	6.EE.6	6.EE.B.6	Expressions & Equations	MC^2 PARCC Practice Test Item Packets-Preparing for Spring 2017

30. During a sale, all pillows are $\frac{1}{4}$ off the regular price.

Which expression shows the amount of money saved on a pillow that had a regular price of d dollars?

A. $d \div 4$

B. $d \times 4$

C. $d + 4$

D. $d - 4$

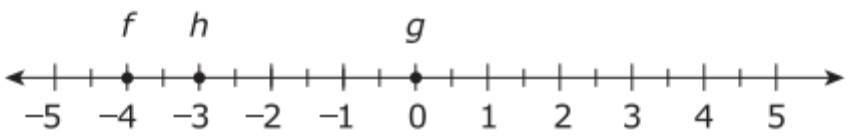
Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
51	6.NS.6a	6.NS.C.6.A	The Number System	MC^2 PARCC Practice Test Item Packets-Preparing for Spring 2017

17. Three values on a number line are labeled f, g, and h.

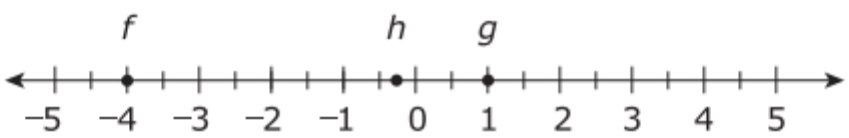
$$f = -4$$
$$g = -g$$
$$h = -f$$

Which number line correctly shows the values of f, g, and h?

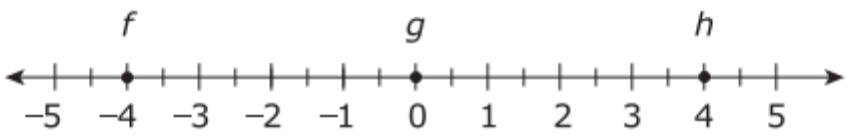
A.



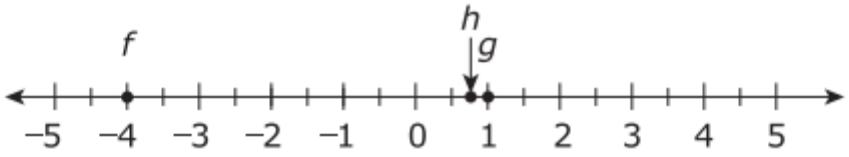
B.



C.



D.



Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
52	6.RP.3a	6.RP.A.3.A	Ratios & Proportional Relationships	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.

The ratio of the sales tax to the amount of a purchase is a fixed number in Town Q. The table shows the sales tax for a purchase of $1,200.

Town Q Tax

Purchase	Sales Tax
$1,200	$72
$2,500	?
?	$108

29. Part A

What is the sales tax for a purchase of $2,500?

A. $18.06

B. $34.72

C. $144.00

D. $150.00

Part B

What is the cost of an item with a sales tax of $108?

A. $432

B. $648

C. $1,092

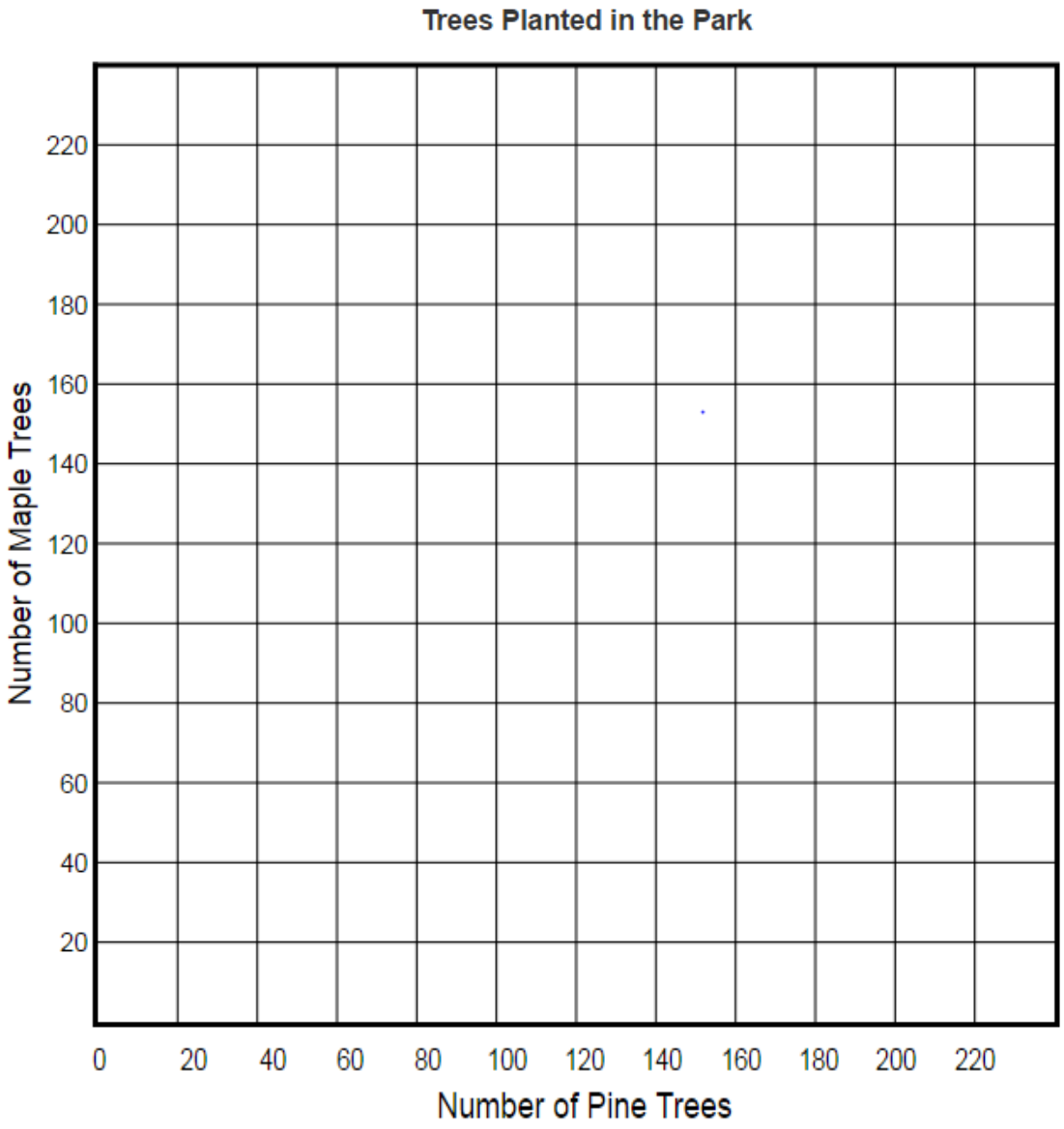
D. $1,800

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
52	6.RP.3a	6.RP.A.3.A	Ratios & Proportional Relationships	MC^2 PARCC Practice Test Item Packets-Preparing for Spring 2017

A total of 300 trees will be planted in a park. There will be 2 pine trees planted for every 3 maple trees planted.

Plot the point that represents the number of pine trees and the number of maple trees that will be planted.

Select the place on the coordinate plane to plot the point.



Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
53	6.RP.1	6.RP.A.1	Ratios & Proportional Relationships	MC^2 PARCC Practice Test Item Packets-Preparing for Spring 2017

1. A class of 25 students shares a class set of 100 markers. On a day with 5 students absent, which statement is true?

A. For every 5 students, there is 1 marker.

B. For every 4 students, there is 1 marker.

C. For each student, there are 4 markers.

D. For each student, there are 5 markers.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
53	6.RP.1	6.RP.A.1	Ratios & Proportional Relationships	MC^2 PARCC Practice Test Item Packets-Preparing for Spring 2017

This table shows the numbers of books, by type, checked out from the school library on Monday.

Book Checkout

Book Type	Number of Books
mystery	24
nonfiction	18
adventure	12
humor	16

Use the drop-down menus to complete the statement.

For every [Choose...] mystery books checked out, [Choose...] nonfiction books were checked out.

2	2
3	3
4	4
6	6

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
53	6.RP.1	6.RP.A.1	Ratios & Proportional Relationships	PARCC Released Items Spring 2017

1.

Kent mixed oil and gas for his lawn mower. He mixed 8 fluid ounces of oil for every 1 gallon of gas. Which of the following statements must be true?

Select **each** true statement.

- ☐ A. For every 2 gallons of gas, he used 16 fluid ounces of oil.
- ☐ B. For every 3 gallons of gas, he used $\frac{3}{8}$ fluid ounces of oil.
- ☐ C. For every 5 gallons of gas, he used 40 fluid ounces of oil.
- ☐ D. For every fluid ounce of oil, he used $\frac{1}{8}$ gallon of gas.
- ☐ E. For every 40 fluid ounces of oil, he used 10 gallons of gas.
- ☐ F. For every 10 fluid ounces of oil, he used $1\frac{1}{4}$ gallons of gas.

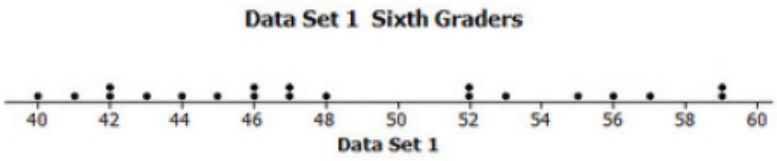
Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
54	6.SP.2	6.SP.A.2	Ratios & Proportional Relationships	Illustrative Mathematics

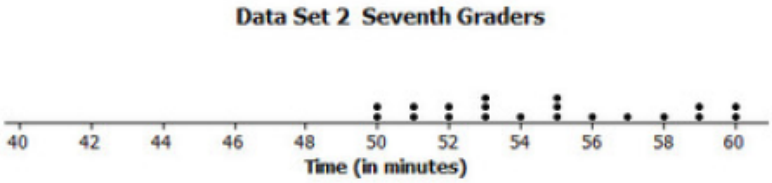
Describing Distributions

Illustrative Mathematics

Task

Data Set 1 consists of data on the time to complete an assignment (in minutes) for 25 sixth graders. Data Set 2 consists of data on the time to complete an assignment for 25 seventh graders. Dot plots of the two data sets are shown below.





1. Describe the data distribution of times for seventh graders (Data Set 2). Be sure to comment on center, spread and overall shape.

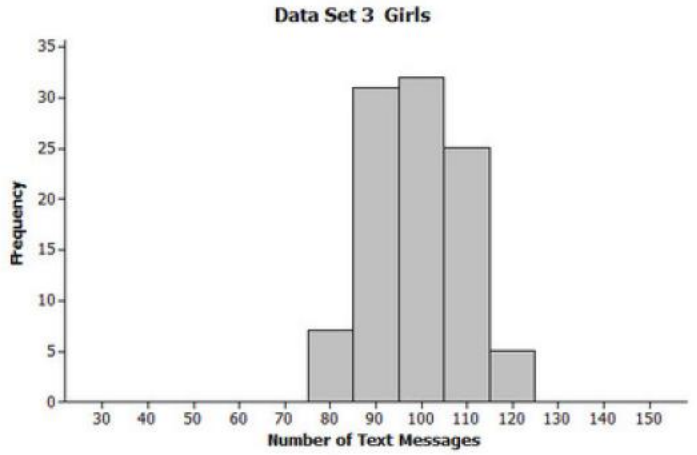
2. Are Data Set 1 and Data Set 2 centered in about the same place? If not, which one has the greater center?

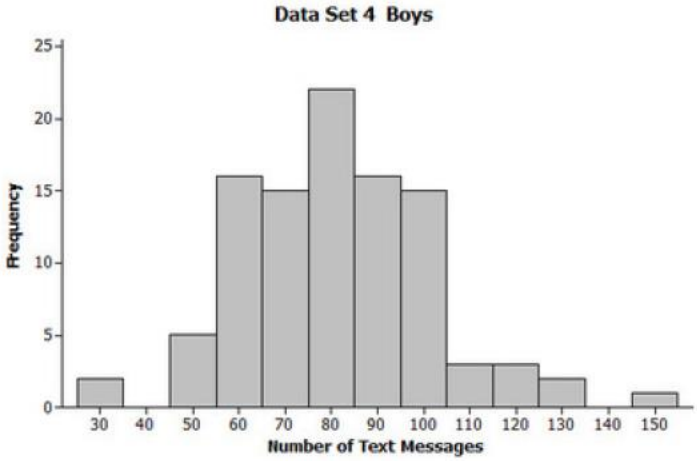
3. Which of Data Set 1 and Data Set 2 has greater spread?

4. Were sixth graders (Data Set 1) or seventh graders (Data Set 2) more consistent in their times to complete the task?

Continued on next page

Data Set 3 consists of data on the number of text messages sent in one month for 100 teenage girls who have a cell phone. Data Set 4 consists of data on the number of text messages sent in one month for 100 teenage boys who have a cell phone. Histograms of the two data sets are shown below.





5. Describe the data distribution of number of text messages for the girls (Data Set 3). Be sure to comment on center, spread and overall shape.

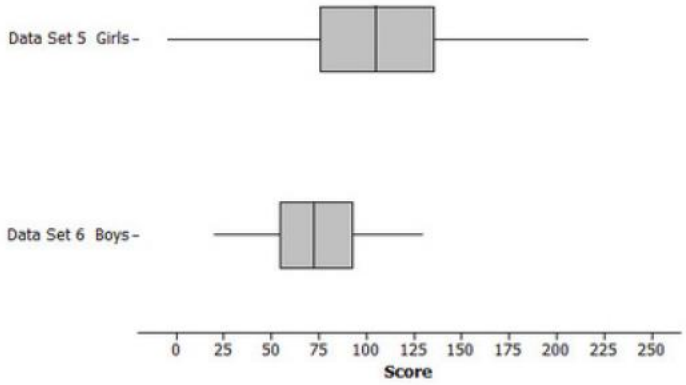
6. Are Data Set 3 and Data Set 4 centered in about the same place? If not, which one has the greater center?

Continued on next page

7. Which of Data Set 3 and Data Set 4 has greater spread?

8. On average, did the girls (Data Set 3) or the boys (Data Set 4) send more text messages?

Data Set 5 consists of data on the scores on a video game for 100 teenage girls. Data Set 6 consists of the scores on a video game for 100 teenage boys. Box plots of the two data sets are shown below.



9. Describe the data distribution of Data Set 5. Be sure to comment on center, spread and overall shape.

10. Are Data Set 5 and Data Set 6 centered in about the same place? If not, which one has the greater center?

11. Which of Data Set 5 and Data Set 6 has greater spread?

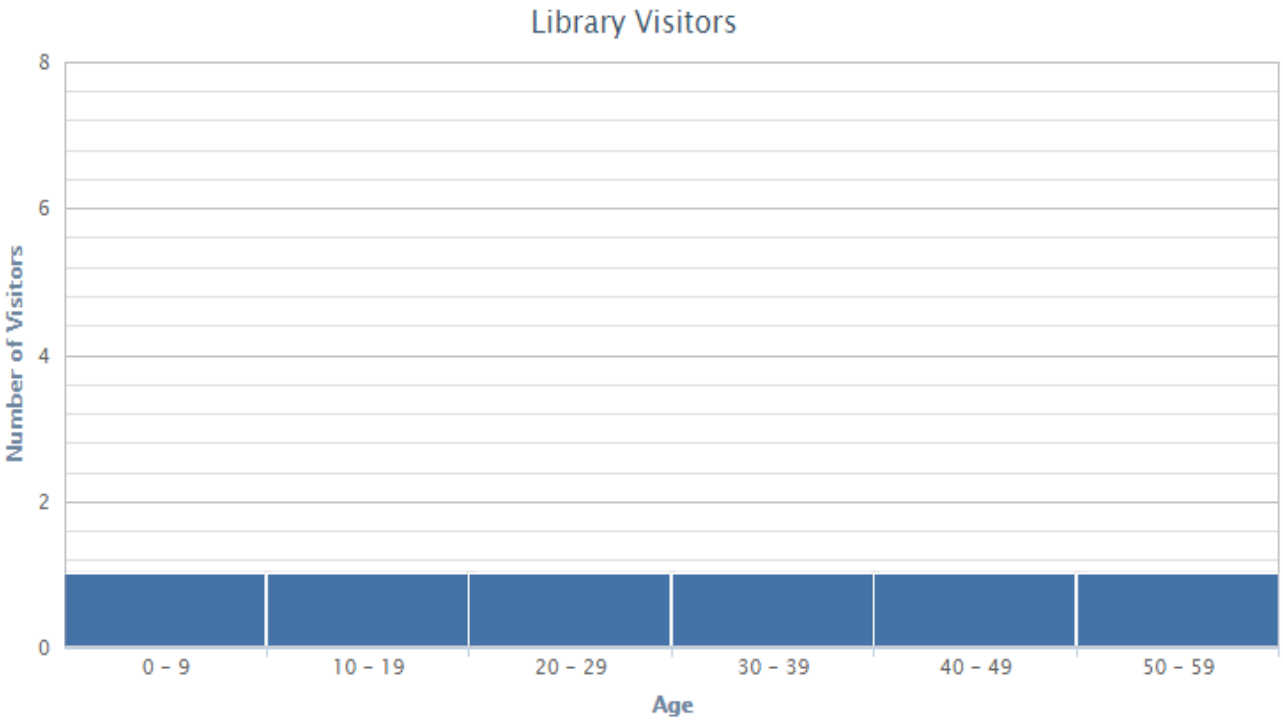
12. On average, did the girls (Data Set 5) or the boys (Data Set 6) tend to have higher scores?

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
55	6.SP.4	6.SP.B.4	Statistics & Probability	MC^2 PARCC Practice Test Item Packets-Preparing for Spring 2017

This table shows the ages of 20 visitors at a library.

15	27	53	9	48
3	56	12	10	15
18	15	2	31	20
21	33	6	52	56

Create a histogram that represents the data. Adjust the size of the slider by dragging the top of the slider to the appropriate height.



Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
56	6.NS.7a	6.NS.C.7.A	The Number System	MC^2 PARCC Practice Test Item Packets-Preparing for Spring 2017

7. These five rational numbers are plotted on a horizontal number line.

$$-\frac{2}{3}, \frac{7}{8}, -\frac{4}{5}, \frac{7}{10}, -\frac{4}{3}$$

Which statement about the locations on the number line of the rational numbers is true?

A. $-\frac{2}{3}$ is farthest to the left, and $\frac{7}{8}$ is farthest to the right.

B. $-\frac{4}{3}$ is farthest to the left, and $\frac{7}{8}$ is farthest to the right.

C. $-\frac{2}{3}$ is farthest to the left, and $\frac{7}{10}$ is farthest to the right.

D. $-\frac{4}{3}$ is farthest to the left, and $\frac{7}{10}$ is farthest to the right.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
57	6.NS.3-1	6.NS.B.3	The Number System	MC^2 PARCC Practice Test Item Packets-Preparing for Spring 2017

10. What is the sum of 74.835 and 2.67?

Enter your answer in the box.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
57	6.NS.3-1	6.NS.B.3	The Number System	PARCC Released Items Spring 2017

9.

Find the value of $9.62 + 85.749$.

Enter your answer in the box.

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
58	6.NS.5	6.NS.C.5	The Number System	Illustrative Mathematics

6.NS Mile High

Task

Denver, Colorado is called "The Mile High City" because its elevation is 5280 feet above sea level. Someone tells you that the elevation of Death Valley, California is -282 feet.

a. Is Death Valley located above or below sea level? Explain.

b. How many feet higher is Denver than Death Valley?

c. What would your elevation be if you were standing near the ocean?

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
59	6.EE.5-1	6.EE.B.5	Expressions & Equations	Illustrative Mathematics

6.EE Log Ride

Task

A theme park has a log ride that can hold 12 people. They also have a weight limit of 1500 lbs per log for safety reasons. If the average adult weighs 150 lbs, the average child weighs 100 lbs and the log itself weighs 200, the ride can operate safely if the inequality

$$150A + 100C + 200 \leq 1500$$

is satisfied (A is the number of adults and C is the number of children in the log ride together). There are several groups of children of differing numbers waiting to ride. Group one has 4 children, group two has 3 children, group three has 9 children, group four 6 children while group five has 5 children.

If 4 adults are already seated in the log, which groups of children can safely ride with them?

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
60	6.EE.1-1	6.EE.A.1	Expressions & Equations	MC^2 PARCC Practice Test Item Packets-Preparing for Spring 2017

5. Which equations with exponential expressions are true?

Select **all** that apply.

A. $3^3 = 3 \cdot 3$

B. $5^2 = 5 \cdot 5$

C. $5^4 = 4 \cdot 4 \cdot 4 \cdot 4$

D. $7 \cdot 7 \cdot 7 \cdot 7 \cdot 7 \cdot 7 = 6^7$

E. $7 \cdot 7 \cdot 7 \cdot 7 \cdot 7 \cdot 7 = 7^6$

F. $7 \cdot 7 \cdot 7 \cdot 7 \cdot 7 \cdot 7 = 7^7$

Difficulty Order	Evidence Statement	Common Core State Standard	Domain	Source
60	6.EE.1-1	6.EE.A.1	Expressions & Equations	PARCC Released Items Spring 2017

5.

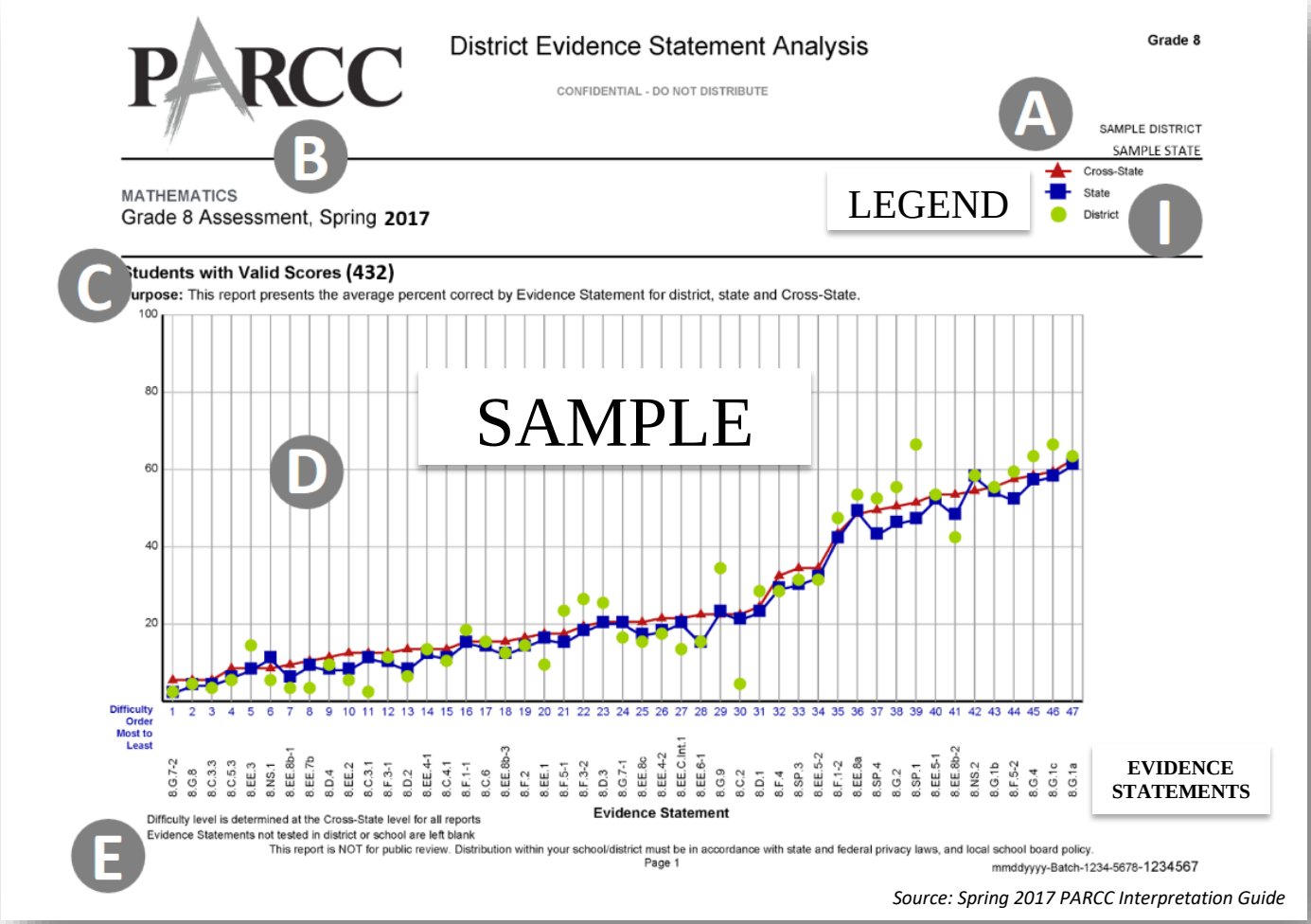
Which expression is equivalent to $4 \times 4 \times 4 \times 5 \times 5$?

- A. $3^4 \times 2^5$
- B. $4^3 \times 5^2$
- C. $4^4 \times 5^5$
- D. $12^3 \times 10^2$

User's Guide

To support New Mexico educators in preparing students for the Spring 2018 PARCC Assessment, Mathematically Connected Communities (MC^2) has again compiled *Practice Test Item Packets* posted on the MC^2 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)



Source: Spring 2017 PARCC Interpretation Guide

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 × 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

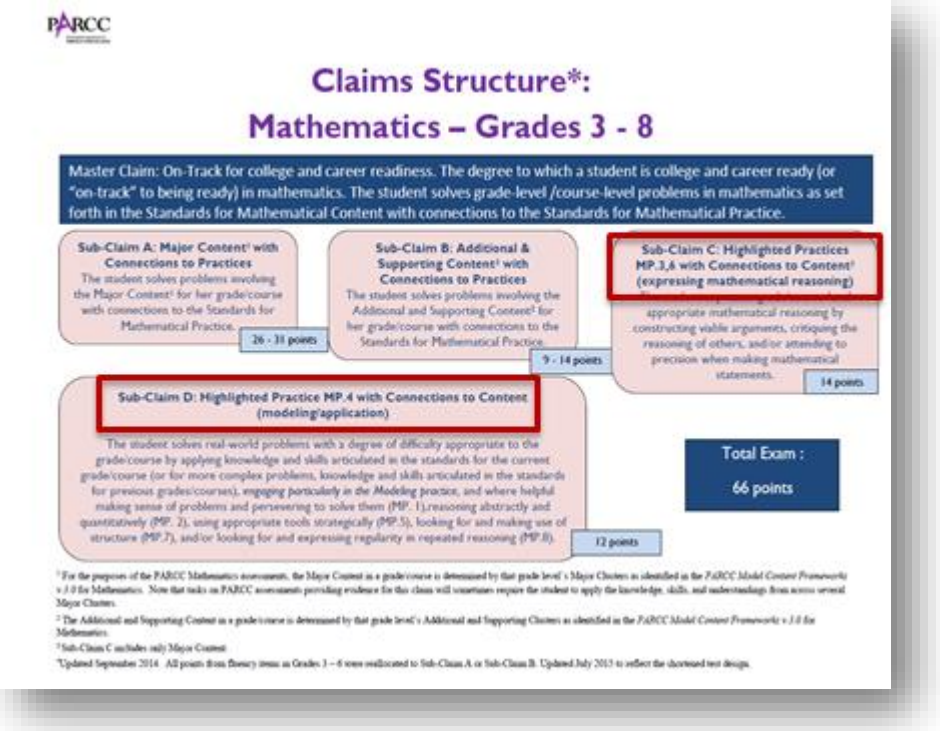
   When the focus is on reasoning, the Evidence Statement may also require the student to reason about *securely held knowledge* (SHK-see pg. 4) from a previous grade.

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.

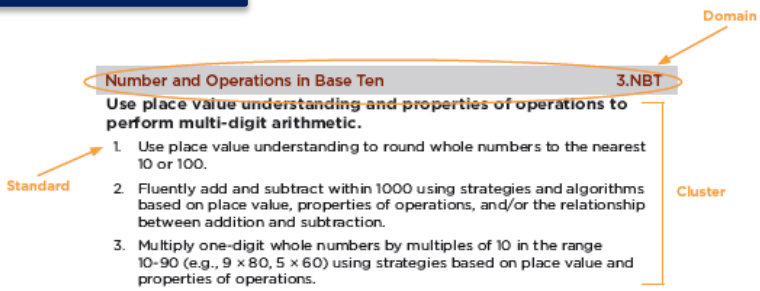
   For example, Evidence Statement HS.D.5:
   - Type of Modeling: Given an equation or system of equations, reason about the number or nature of the solutions.
   - Content Scope: A-REI.11, involving any of the function types measured in the standards.

   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.



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.*

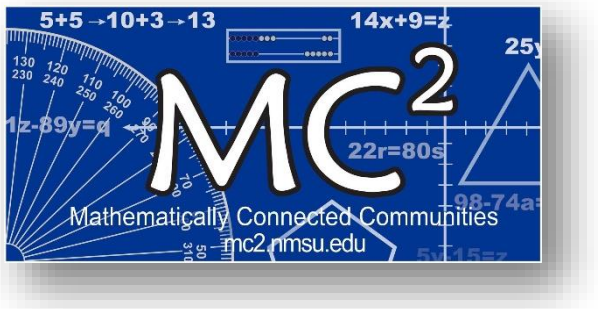
Domains

- Ratios & Proportional Relationships (RP)
- The Number System (NS)
- Expressions & Equations (EE)
- Geometry (G)
- Statistics & Probability (SP)

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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