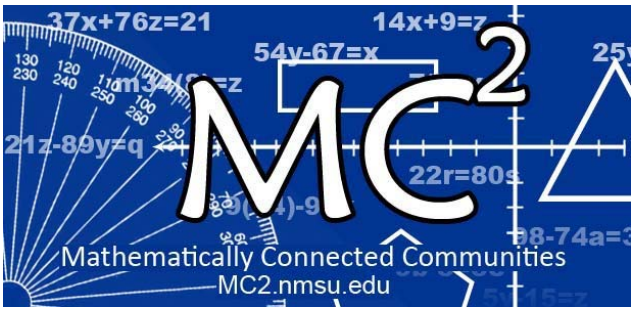
Mathematically
Connected Communities



PARCC PBA Practice Test Items
3rd Grade Math

Excerpted 1/2015 from
PARCC Online Practice Tests
www.parcconline.org

Mathematical Practice Questions for MC^2 Thinking Protocol

Follow the process below in working with the PARCC practice 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 MC^2 PARCC practice 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.

1. Gina's bedroom floor is in the shape of a rectangle. It is 10 feet long and 9 feet wide. What is the area of Gina's bedroom floor?

   A. 19 square feet

   B. 38 square feet

   C. 90 square feet

   D. 109 square feet

2. Which equations are true?

Select the **three** correct answers.

- [ ] A. $7 \div 7 = 0$
- [ ] B. $3 \times 4 = 12$
- [ ] C. $10 \div 5 = 5$
- [ ] D. $16 \div 2 = 8$
- [ ] E. $0 \times 6 = 0$

3. Third-grade students took a total of 1,000 pictures for the yearbook during the school year.

- Ted took 72 pictures.
- Mary took 48 pictures.

Part A

What is the total number of pictures taken by the rest of the third-grade students during the school year?

Enter your answer in the box.

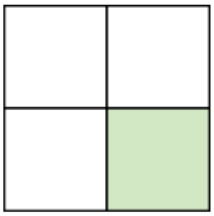
Part B

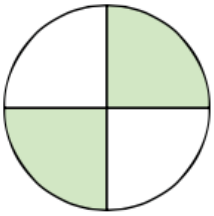
Ella took 8 more pictures than Ted took. How many more pictures did Ella take than Mary?

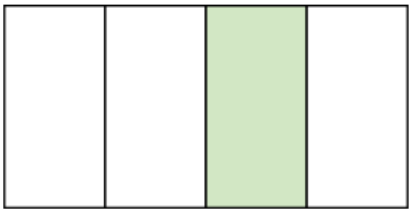
Enter your answer in the box.

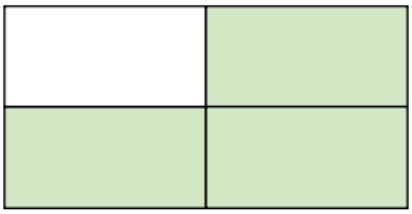
4. Each model equals one whole divided into equal parts. Which models show $\frac{1}{4}$ shaded?

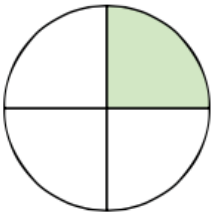
Select the **three** correct answers.

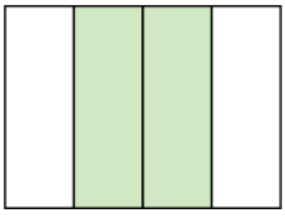
A. 

B. 

C. 

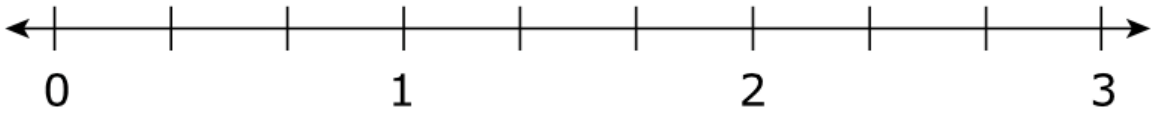
D. 

E. 

F. 

5. Where would a point be plotted to show $\frac{5}{3}$ on the number line?

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



6. Cindy is finding the quotient for $27 \div 9$. She says, "The answer is 18 because addition is the opposite of division and $9 + 18 = 27$."

Part A

Identify the incorrect reasoning in Cindy's statement.

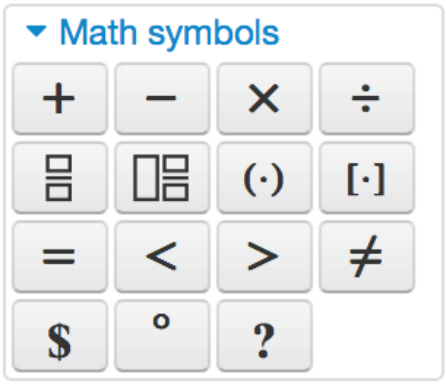
Enter your explanation in the space provided.

6. **Part B**

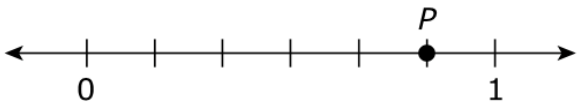
Show or explain how Cindy can correct her reasoning.

Find the quotient when 27 is divided by 9.

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

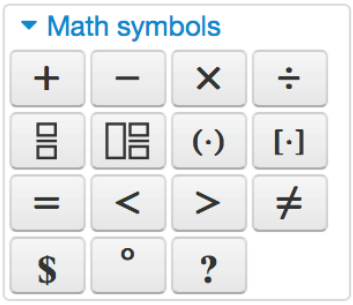


7. Mia placed point *P* on the number line.

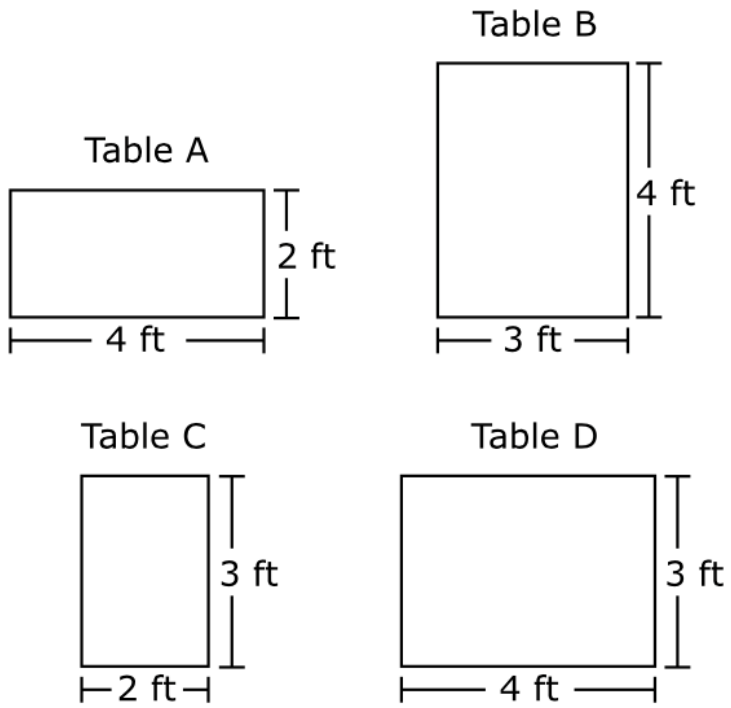


- Give the value of the number *P* as a fraction.
- What does the denominator of your fraction represent on the number line?
- What does the numerator of your fraction represent on the number line?

Enter your answer and your explanation in the space provided.



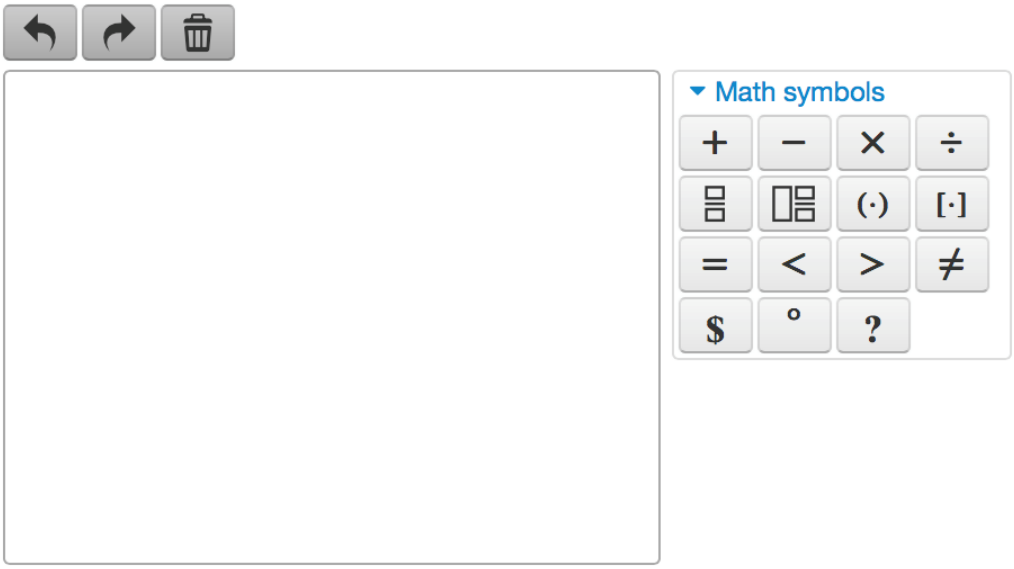
8. Tori and Leo set up their clubhouse with four tables. These rectangles represent the tabletops.



Part A

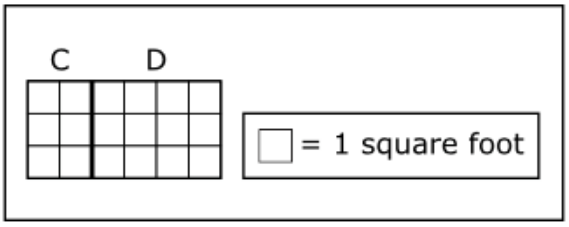
Identify **two** tabletops with the same area, in square feet, and explain how you know that the areas are equal.

Enter your answers and your explanation in the space provided.



8. **Part B**

The grid shows Table C and Table D placed end to end to make a new, larger tabletop.

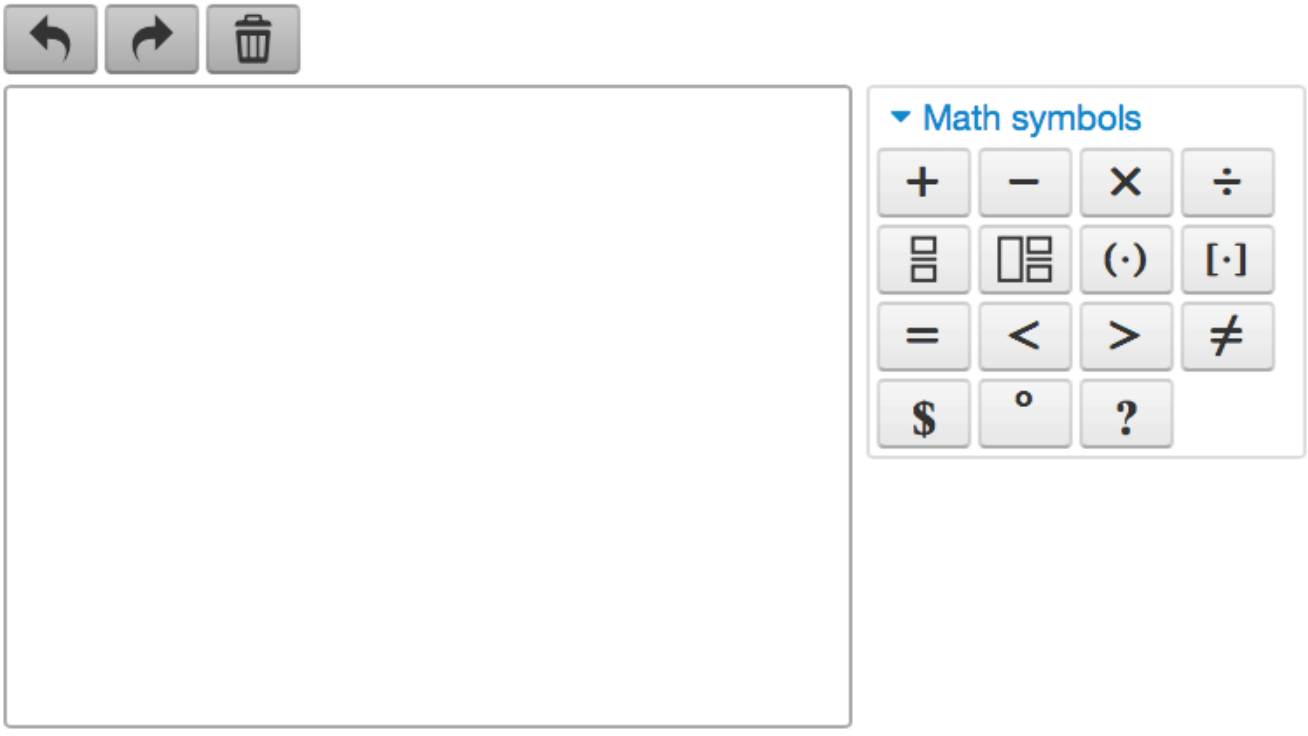


Tori uses the expression $3 \times (2 + 4)$ to find the total area of the new, larger tabletop.

Leo uses the expression $(3 \times 2) + (3 \times 4)$ to find the total area of the new, larger tabletop.

- Find the total area, in square feet, of the new, larger tabletop.
- Use the grid to explain why both Tori's expression and Leo's expression are correct.

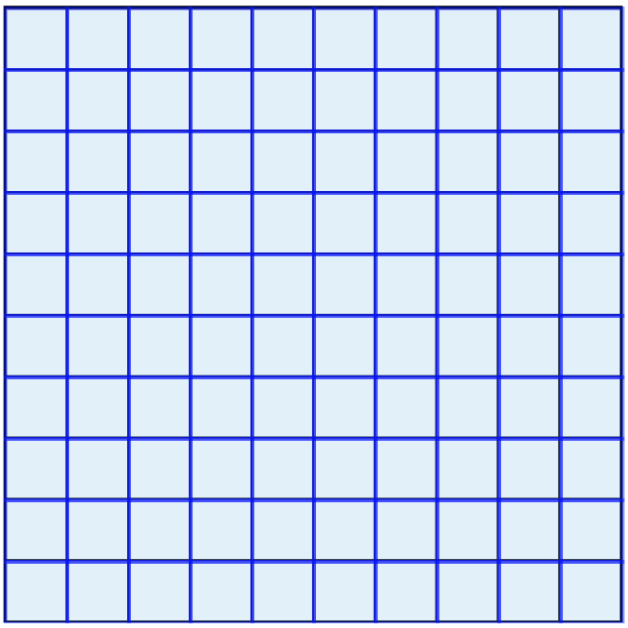
Enter your answer and your explanations in the space provided.



9. **Part A**

Select a box for each picture to create an array to represent the pictures on the bulletin board.

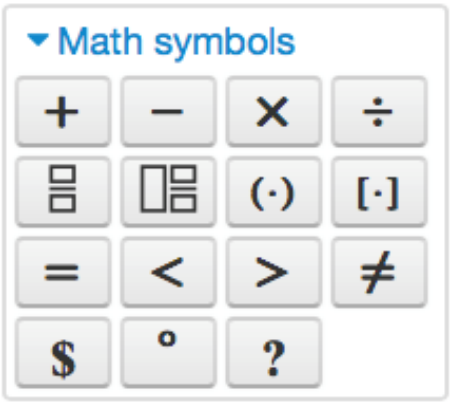
Adam needs to put 19 pictures from Classroom A and 23 pictures from Classroom B on a bulletin board. He wants to display the pictures in an array.



9. **Part B**

Find the area of the array. Explain your answer using an equation or equations.

Enter your answer and your explanation using an equation or equations in the space provided.



10. Jane bought 24 light bulbs. The light bulbs come in packs of

How many packs of light bulbs did Jane buy?

Enter your answer in the box.

11. Bryan has 48 cupcakes in 6 boxes. Each box holds an equal number of cupcakes. Bryan uses this equation to find how many cupcakes are in each box.

$$48 \div 6 = ?$$

Create a different equation Bryan could use to find the number of cupcakes in each of the 6 boxes.

Select from the drop-down menus to correctly complete the equation.

Choose...	Choose...	Choose...	$= 48$
?	+	?	
6	-	6	
7	x	7	
42	÷	42	
48		48	

12. Mr. Kahn has a total of 148 balloons. He has 112 white balloons and equal numbers of red, blue, green, and yellow balloons.

Part A

How many red balloons does Mr. Kahn have?

- A. 8
- B. 9
- C. 32
- D. 36

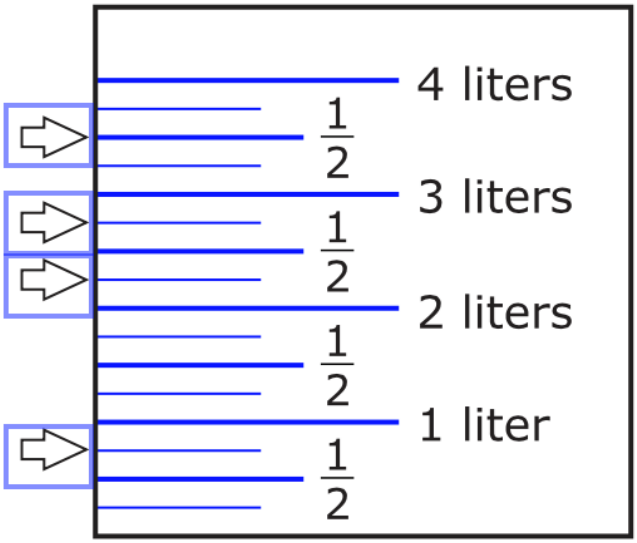
12. **Part B**

Mr. Kahn gave away 8 blue balloons and 6 red balloons. He gave away 3 times the number of white balloons as red balloons. What was the total number of balloons Mr. Kahn gave away?

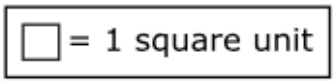
- A. 17
- B. 23
- C. 32
- D. 42

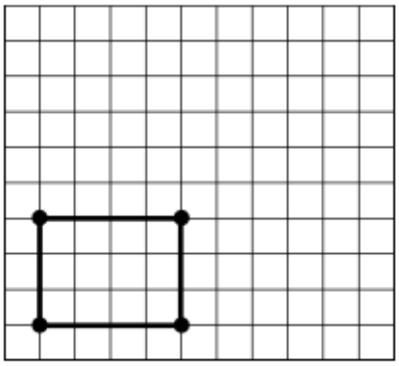
13. Gwen pours about 3 liters of water into a container.

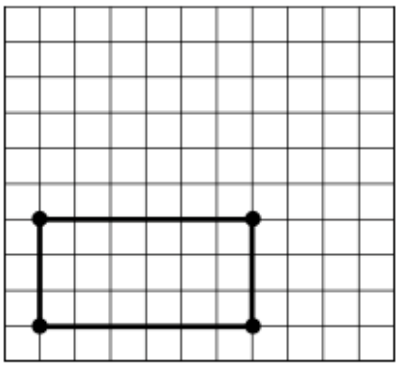
Select the arrow that shows about how much water Gwen poured into the container.

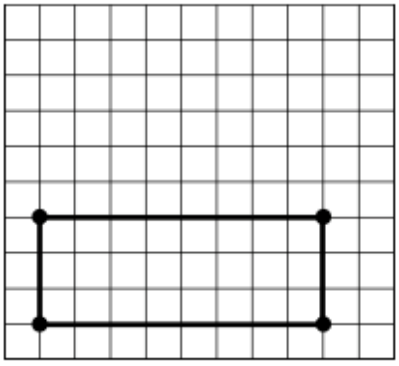


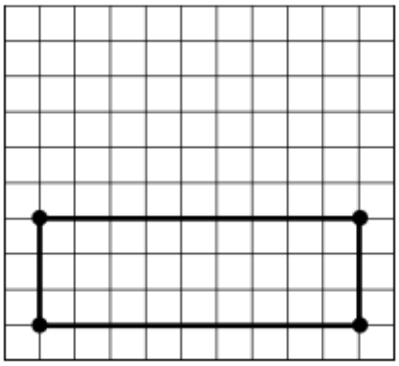
14. Which rectangle has an area of 24 square units?



A. 

B. 

C. 

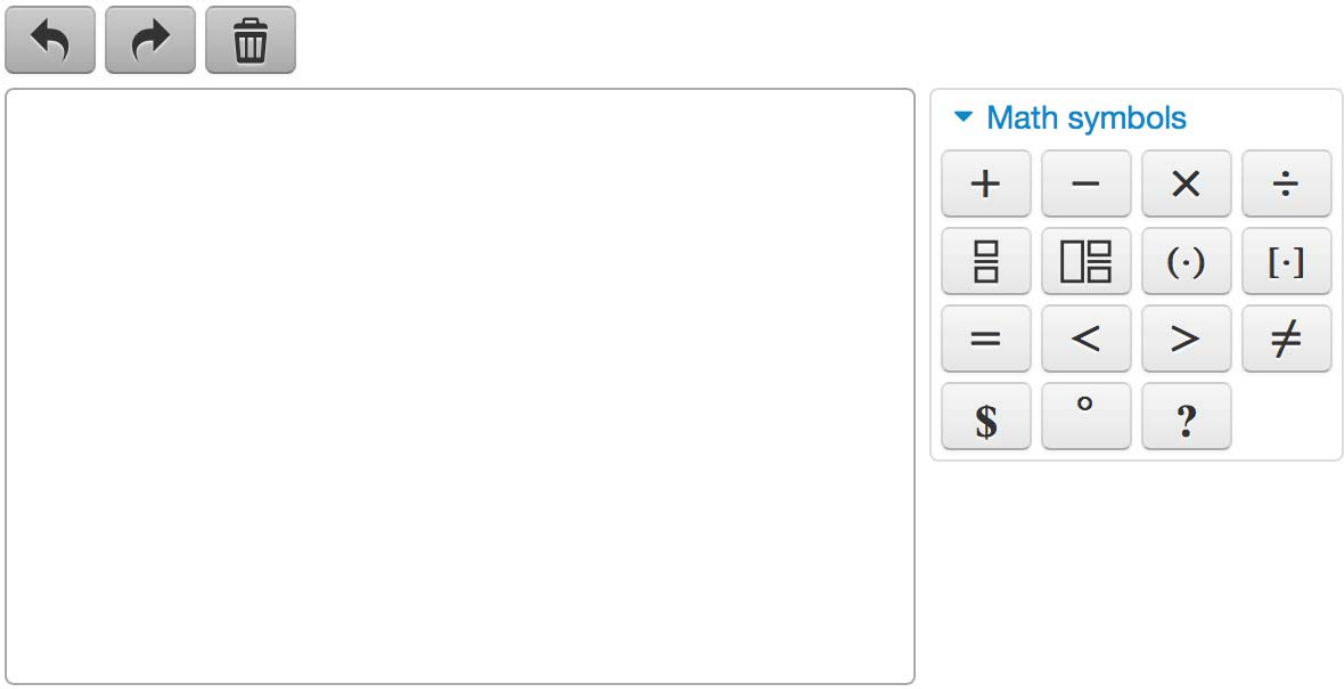
D. 

15. **Part A**

Nolan has 16 pennies in one jar and 94 pennies in another jar.

He uses some of the pennies to buy a pencil that costs 25 cents. What is the total number of pennies Nolan has left after he buys the pencil? Show your work.

Enter your answer and your work in the space provided.



15. **Part B**

Nolan saves some more pennies and now has 187 pennies all in one jar. He finds 10 more pennies in his pocket.

What is the total number of pennies Nolan has after he adds the 10 pennies from his pocket to the jar?

Enter your answer in the box.

15. **Part C**

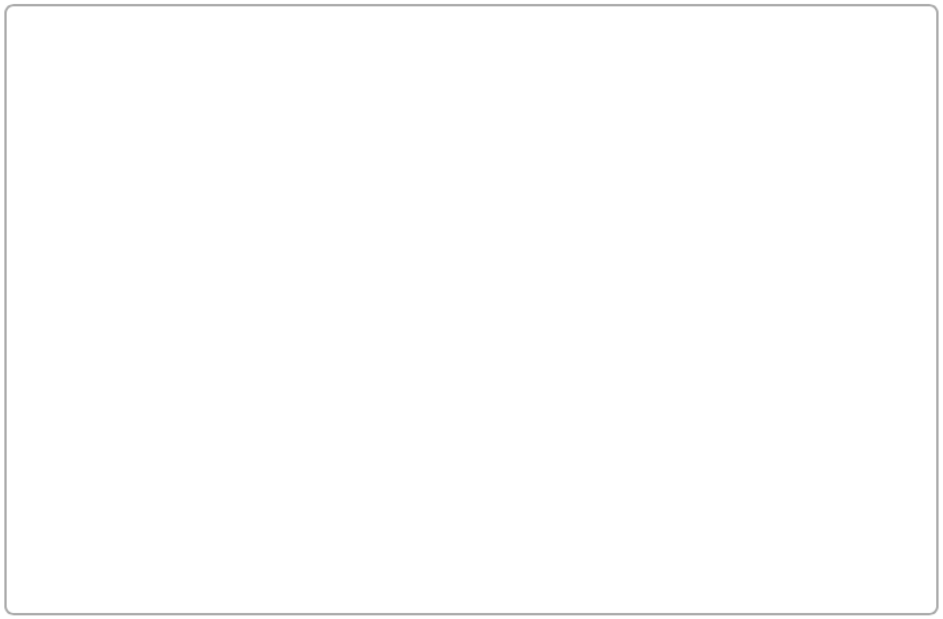
The table shows the number of pennies Nolan saved each week for four weeks.

Pennies Saved Each Week

Week	Number of Pennies
Week 1	18
Week 2	40
Week 3	32
Week 4	25

What is the total number of pennies Nolan saved during the four weeks? Show your work.

Enter your answer and your work in the space provided.



16. **Part A**

What is the number with the **least** value that can be made with the digits 6, 7, and 5 using all the digits only once?

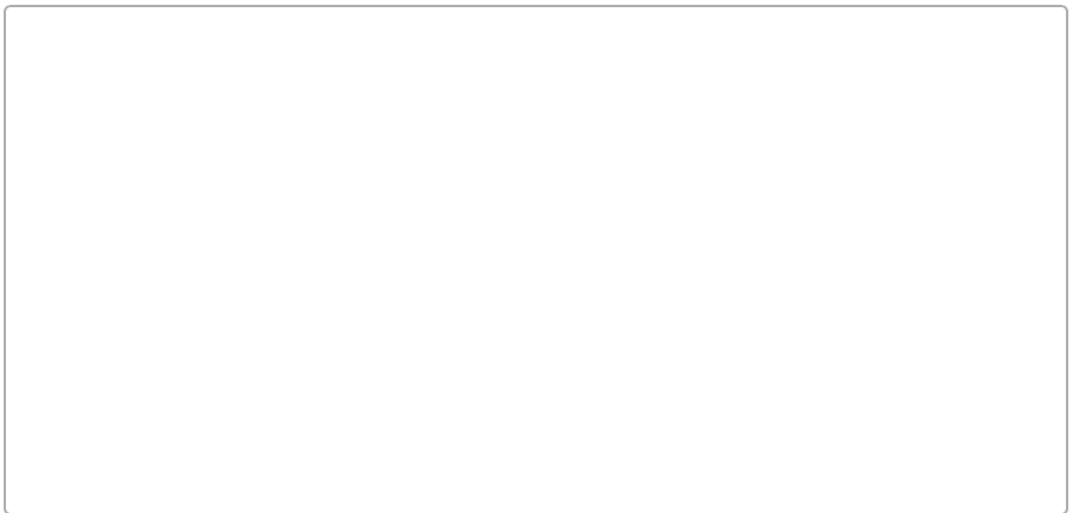
- A. 576
- B. 657
- C. 675
- D. 567

16. **Part B**

Daniel says the number with the **greatest** value he can make with the digits 5, 7, and 6 using the digits only once is 657 because the 7 is in the place with the greatest value.

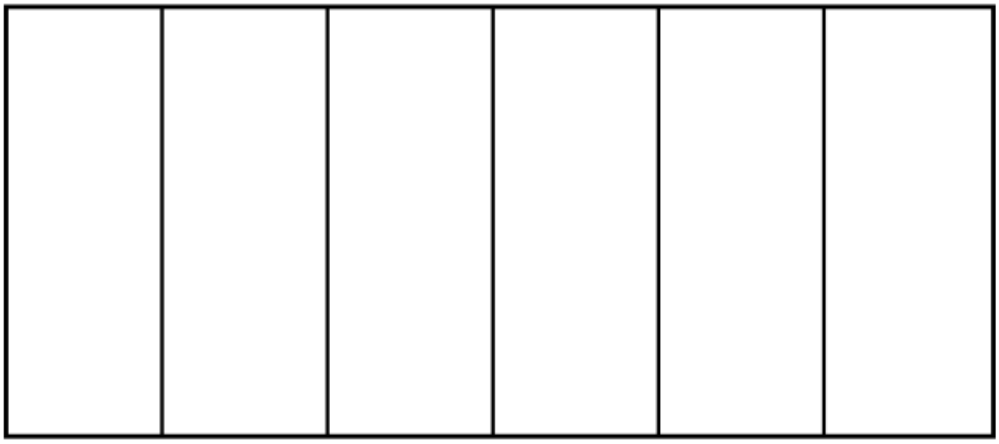
- Explain why Daniel is **not** correct.
- What is the number with the greatest value he can make using all the digits only once?
- Explain how you know this number has the greatest value.

Enter your answer and your explanations in the space provided.



17. An artist plans to paint a wall in a room. The wall is divided into 6 equal parts so that each part can be painted a different color.

Artist's Wall



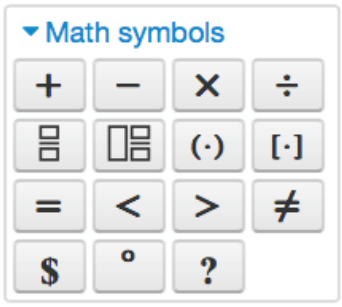
Part A

The artist goes to the store to buy brushes and small cans of paint. He pays a total of $94.

- He buys 8 brushes that cost $5 each.
- The rest of the money is used for the 6 cans of paint. Each can of paint costs the same amount.

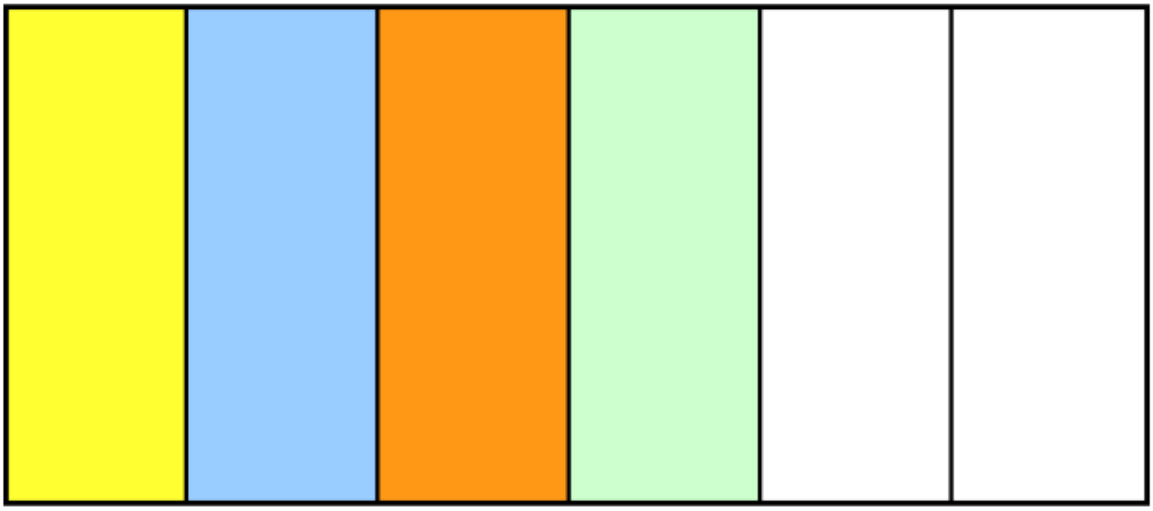
How much does each can of paint cost? Show your work or explain your answer.

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



17. **Part B**

The artist starts painting the wall. The parts of the wall that look white are not painted yet.



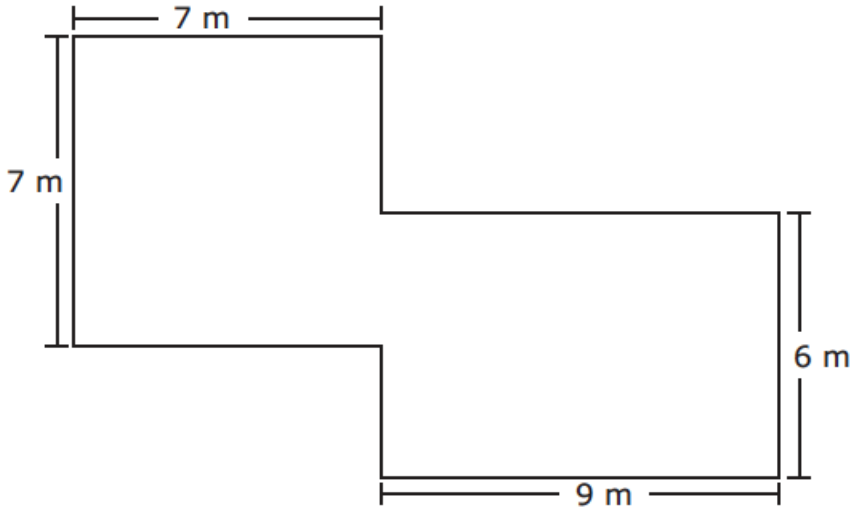
Which statements about the wall are correct?

Select the **two** correct statements.

- ☐ A. Each painted part is $\frac{1}{4}$ of the whole wall.
- ☐ B. Each painted part is $\frac{1}{6}$ of the whole wall.
- ☐ C. Each painted part is $\frac{4}{4}$ of the whole wall.
- ☐ D. The fraction of the wall not yet painted is $\frac{1}{6}$.
- ☐ E. The fraction of the wall not yet painted is $\frac{2}{4}$.
- ☐ F. The fraction of the wall not yet painted is $\frac{2}{6}$.

Additional Paper Booklet
3rd Grade PBA Practice Items

9. A model of a playground is shown.

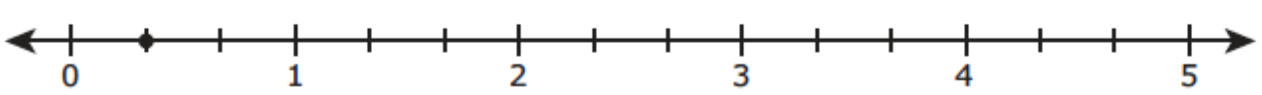


Find the area, in square meters, of the playground. Explain your answer using an equation or equations.

Enter your answer and your explanation using your equation or equations in the space provided.

5. Which number line shows the correct location of the number $\frac{5}{3}$?

Ⓐ



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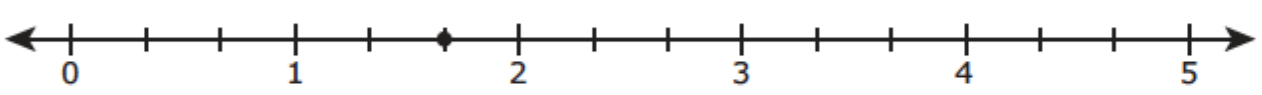

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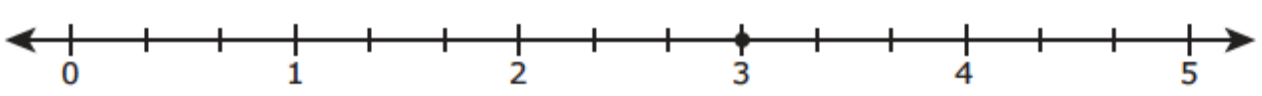

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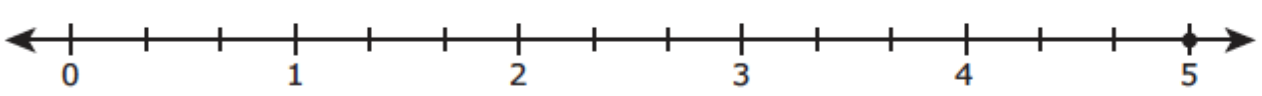

11. Connie solved the math problem shown.

$$40 \div 8 = ?$$

Which equation can Connie use to check her answer?

Ⓐ $8 + ? = 40$

Ⓑ $40 + 8 = ?$

Ⓒ $8 \times ? = 40$

Ⓓ $8 \times 40 = ?$