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DEPARTMENT OF  
EDUCATION

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# Mathematics

## ***Grade 3 Item Sampler 2015–16***



QA116017



- 1.** Lily has solved this math problem.

$$54 \div 6 = ?$$

Which equation can she use to check her answer?

Ⓐ  $54 \times 6 = ?$

Ⓑ  $6 + ? = 54$

Ⓒ  $54 + 6 = ?$

Ⓓ  $6 \times ? = 54$

- 2.** Kareem bought 35 pencils. There are 5 pencils in a pack.

How many packs of pencils did Kareem buy?

Ⓐ 5

Ⓑ 7

Ⓒ 30

Ⓓ 40

- 3.** Which expressions are equal to  $4 \times 2 \times 5$ ?

Select all that apply.

Ⓐ  $4 + 2 + 5$

Ⓑ  $8 \times 5$

Ⓒ  $4 \times 10$

Ⓓ  $8 + 5$

Ⓔ  $5 \times 2 \times 4$

Ⓕ  $4 \times 25$

- 4.** There are 84 third graders at Wilson Park Elementary School. There are 38 third-grade girls. On Monday, 3 third-grade girls and 6 third-grade boys were absent. How many third-grade boys were present at school on Monday?

boys

5. Molly compared the fractions  $\frac{2}{4}$  and  $\frac{4}{8}$  and wrote  $\frac{2}{4} < \frac{4}{8}$ .

Is Molly's comparison correct?

- Ⓐ Yes, because 4 parts is more than 2 parts.
- Ⓑ Yes, because 4 parts is less than 8 parts.
- Ⓒ No, because 2 parts out of 4 parts is the same amount as 4 parts out of 8 parts.
- Ⓓ No, because 2 parts out of 4 parts is more than 4 parts out of 8 parts.
6. Use the information provided to answer Part A and Part B.

Jesse has 100 marbles in his collection. He has 76 red marbles and equal numbers of green, yellow, blue, and white marbles.

**Part A**

Which equation shows the number of marbles ( $n$ ) Jesse has that are **not** red?

- Ⓐ  $n = 100 - 76$
- Ⓑ  $n = 76 \div 4$
- Ⓒ  $n = 100 \div 4$
- Ⓓ  $n = 76 - 4$

**Part B**

How many blue marbles does Jesse have?

Ⓐ 4

Ⓑ 6

Ⓒ 24

Ⓓ 25

- 7.** A group of children formed 4 teams. There were 6 children on each team.

Write an expression showing the total number of children.

- 8.** What is 243 rounded to the nearest 10?

Ⓐ 200

Ⓑ 240

Ⓒ 250

Ⓓ 300

**9.** Which two equations are correct?

Ⓐ  $7 \times 30 = 200$

Ⓑ  $8 \times 80 = 560$

Ⓒ  $20 \times 8 = 160$

Ⓓ  $70 \times 5 = 280$

Ⓔ  $240 = 6 \times 40$

Ⓕ  $720 = 90 \times 9$

**10.** What is the value of  $6 \times 70$ ?

Ⓐ 42

Ⓑ 76

Ⓒ 130

Ⓓ 420

- 11.** Round each number to the nearest 10.

$$628 + 284 = 912$$

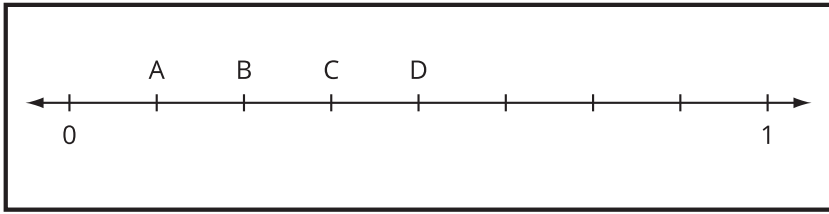
|                           |   |                           |   |                            |
|---------------------------|---|---------------------------|---|----------------------------|
| <input type="radio"/> 600 | + | <input type="radio"/> 200 | = | <input type="radio"/> 900  |
| <input type="radio"/> 620 |   | <input type="radio"/> 280 |   | <input type="radio"/> 910  |
| <input type="radio"/> 630 |   | <input type="radio"/> 290 |   | <input type="radio"/> 920  |
| <input type="radio"/> 700 |   | <input type="radio"/> 300 |   | <input type="radio"/> 1000 |

- 12.** For each equation in Column A, choose an equation in Column B that is equal.

| Column A        | Column B                              |                                       |                                       |
|-----------------|---------------------------------------|---------------------------------------|---------------------------------------|
| $485 - 255 = ?$ | <input type="radio"/> $375 - 145 = ?$ | <input type="radio"/> $600 - 220 = ?$ | <input type="radio"/> $640 + 160 = ?$ |
| $296 + 504 = ?$ | <input type="radio"/> $375 - 145 = ?$ | <input type="radio"/> $600 - 220 = ?$ | <input type="radio"/> $640 + 160 = ?$ |
| $800 - 420 = ?$ | <input type="radio"/> $375 - 145 = ?$ | <input type="radio"/> $600 - 220 = ?$ | <input type="radio"/> $640 + 160 = ?$ |



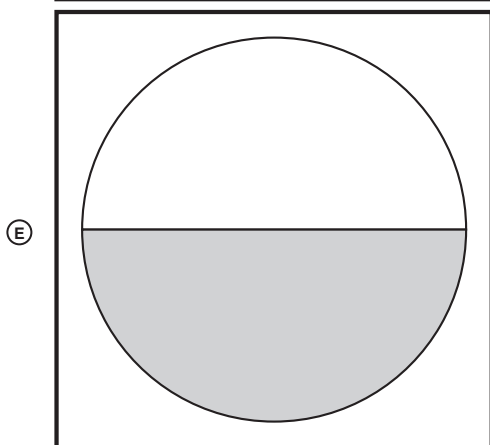
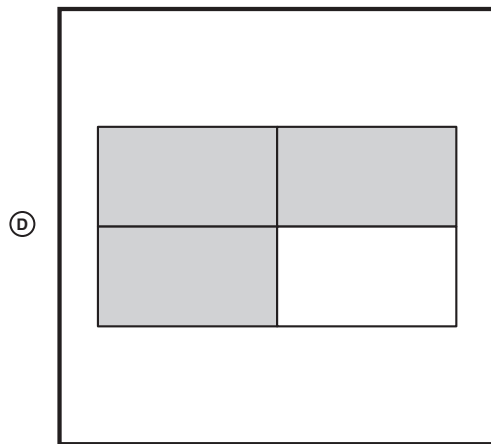
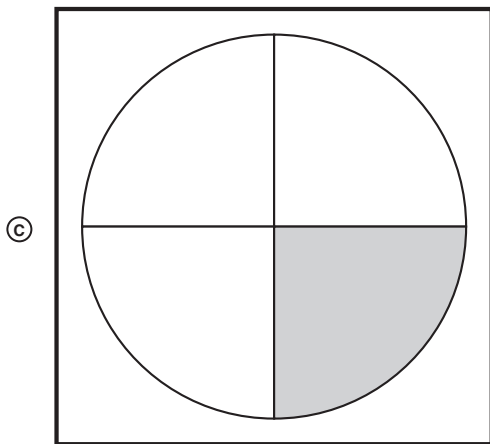
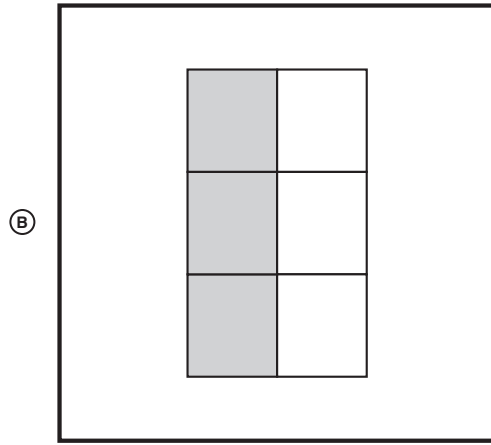
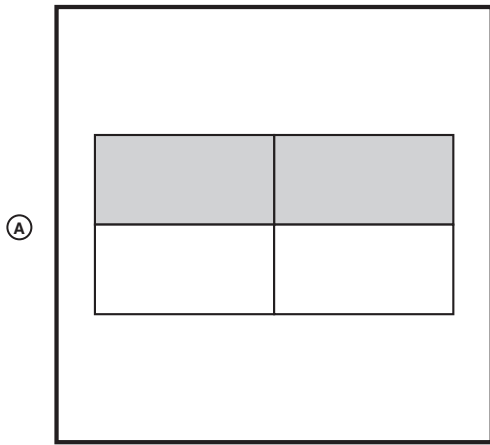
13. Which point on the number line represents  $\frac{1}{8}$ ?



- Ⓐ A
  - Ⓑ B
  - Ⓒ C
  - Ⓓ D
14. Which pair of fractions is equivalent?

- Ⓐ  $\frac{1}{4}$  and  $\frac{2}{6}$
- Ⓑ  $\frac{1}{3}$  and  $\frac{2}{6}$
- Ⓒ  $\frac{2}{6}$  and  $\frac{2}{4}$
- Ⓓ  $\frac{3}{4}$  and  $\frac{3}{8}$

15. Which three models show  $\frac{1}{2}$  shaded?



**16.** Which two fractions are equivalent to whole numbers?

Select all that apply.

Ⓐ  $\frac{1}{2}$

Ⓑ  $\frac{2}{6}$

Ⓒ  $\frac{4}{8}$

Ⓓ  $\frac{5}{5}$

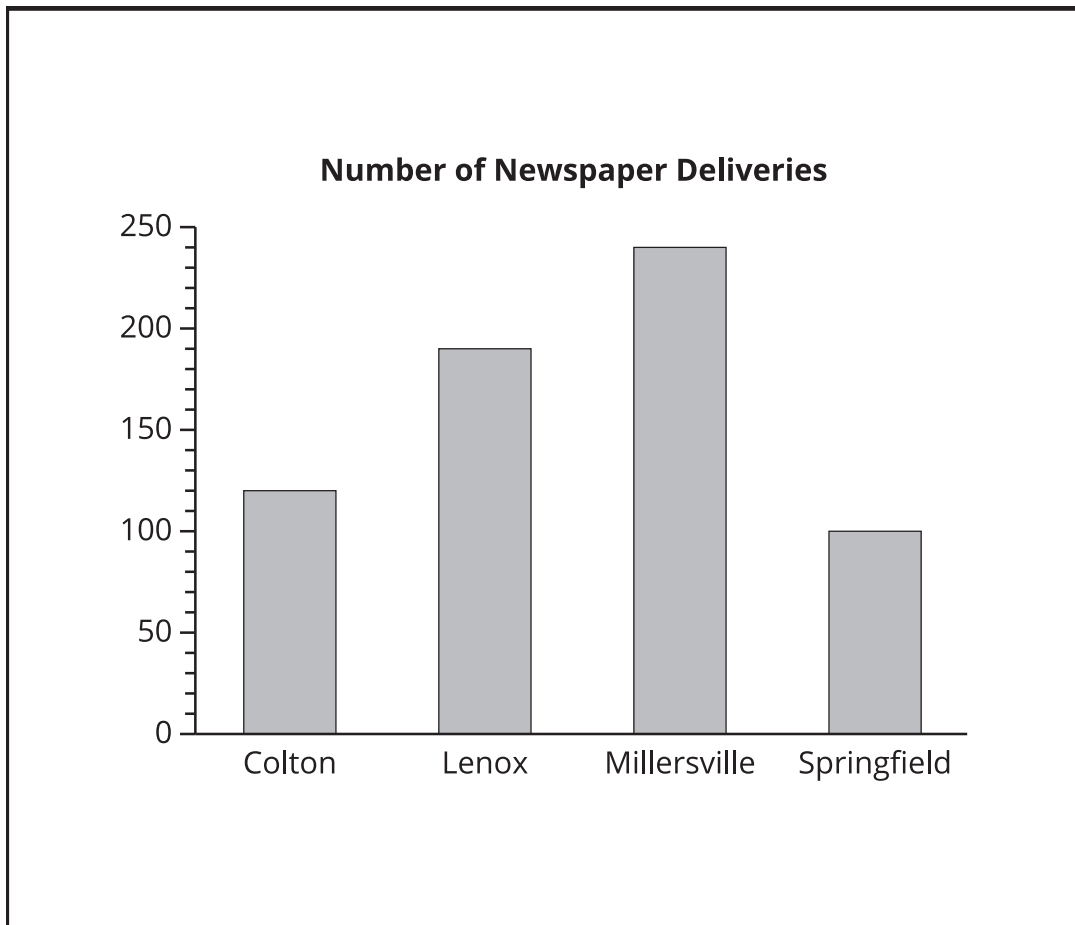
Ⓔ  $\frac{7}{8}$

Ⓕ  $\frac{10}{1}$

**17.** A soccer game started at 2:15 p.m. and ended at 3:35 p.m. How long did the game last?

minutes

18. Use the bar graph about newspapers delivered in four towns to answer the question.



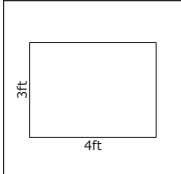
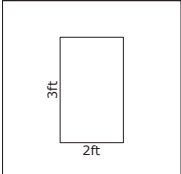
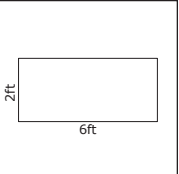
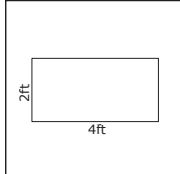
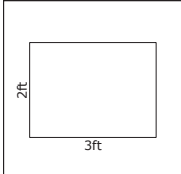
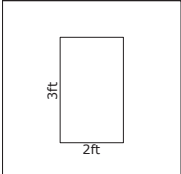
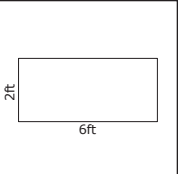
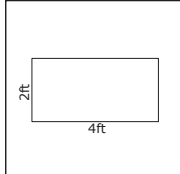
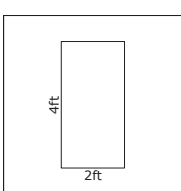
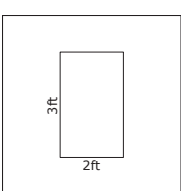
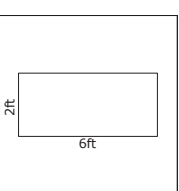
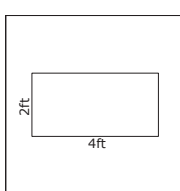
How many more newspapers are delivered in Millersville than in Lenox?

- Ⓐ 50
- Ⓑ 120
- Ⓒ 140
- Ⓓ 430

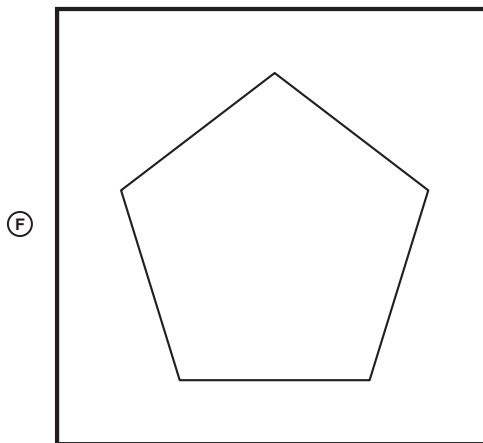
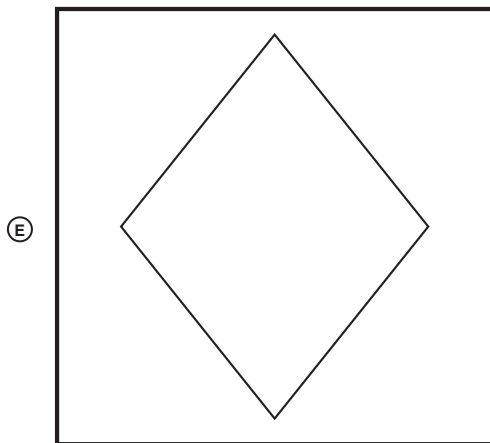
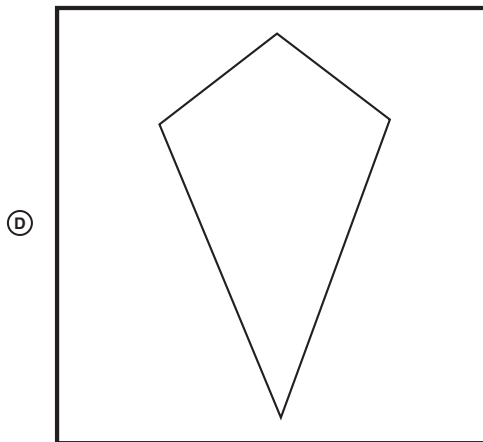
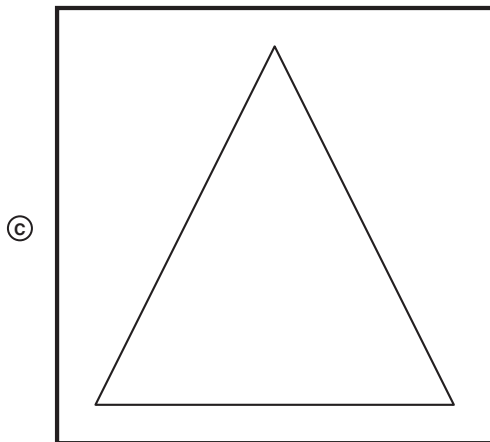
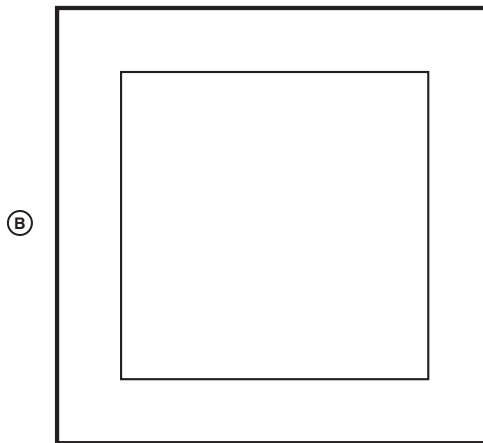
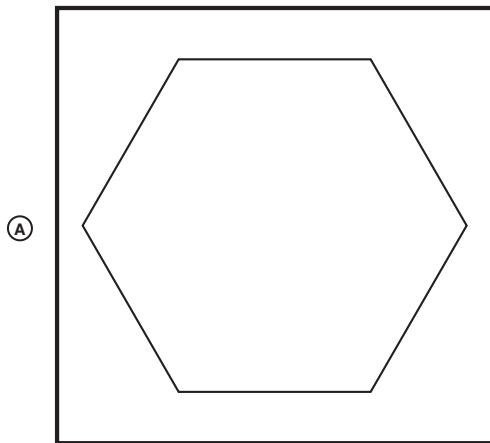
**19.** A rectangular deck is 7 meters wide and 12 meters long. What is the area of the deck?

- Ⓐ 19 square meters
- Ⓑ 38 square meters
- Ⓒ 84 square meters
- Ⓓ 168 square meters

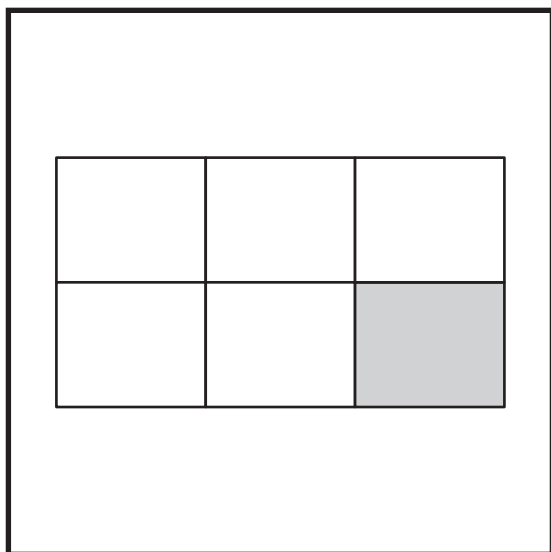
**20.** There are three tables in Ms. Spiegel’s classroom and three tables in Mr. Smith’s classroom. For each table in Ms. Spiegel’s classroom, find the table with the same area in Mr. Smith’s classroom.

| Ms. Spiegel’s Classroom   | Mr. Smith’s Classroom   |  |   |
|---|---|--|---|
|  | <input type="radio"/>  | <input type="radio"/>  | <input type="radio"/>  |
|  | <input type="radio"/>  | <input type="radio"/>  | <input type="radio"/>  |
|  | <input type="radio"/>  | <input type="radio"/>  | <input type="radio"/>  |

21. Which three shapes are quadrilaterals?



22. What fraction of the whole rectangle is shaded?



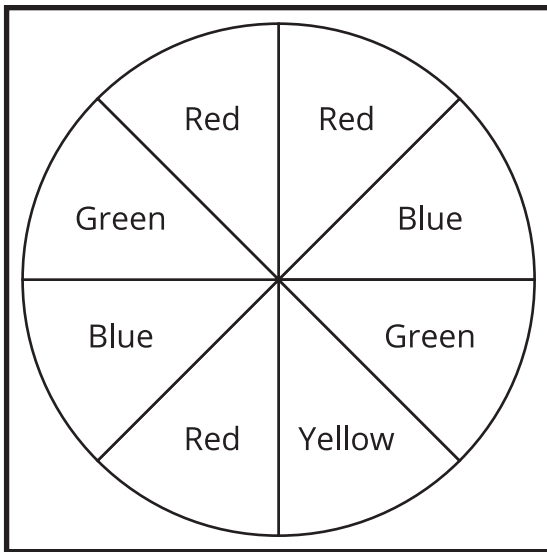
Ⓐ  $\frac{1}{6}$

Ⓑ  $\frac{5}{6}$

Ⓒ  $\frac{6}{1}$

Ⓓ  $\frac{6}{6}$

23. The spinner is divided into 8 equal parts. The colors of the parts are shown.

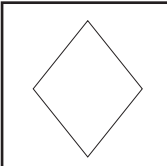
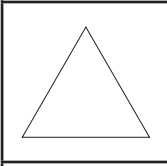
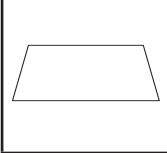
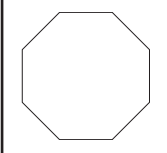
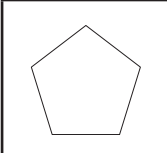
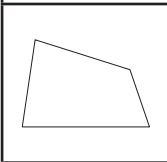


Which three statements are true?

- Ⓐ  $\frac{2}{8}$  of the spinner is blue.
- Ⓑ  $\frac{1}{2}$  of the spinner is red.
- Ⓒ  $\frac{1}{8}$  of the spinner is yellow.
- Ⓓ  $\frac{1}{3}$  of the spinner is green.
- Ⓔ The blue part of the spinner has the same area as the green part.
- Ⓕ Each part of the spinner is  $\frac{1}{4}$  of the whole spinner.



24. Select the appropriate category for each shape.

|   | Quadrilateral         | Not Quadrilateral     |
|---|-----------------------|-----------------------|
|    | <input type="radio"/> | <input type="radio"/> |
|    | <input type="radio"/> | <input type="radio"/> |
|    | <input type="radio"/> | <input type="radio"/> |
|    | <input type="radio"/> | <input type="radio"/> |
|   | <input type="radio"/> | <input type="radio"/> |
|  | <input type="radio"/> | <input type="radio"/> |

25. Use the information provided to answer Part A and Part B.

A vegetable garden is divided into 8 equal parts. The kinds of vegetables planted in the garden are shown.

|        |      |          |          |
|--------|------|----------|----------|
| Squash | Peas | Carrots  | Tomatoes |
| Squash | Peas | Tomatoes | Tomatoes |

**Part A**

What part of the garden is planted with peas?

- Ⓐ  $\frac{1}{8}$
- Ⓑ  $\frac{1}{4}$
- Ⓒ  $\frac{2}{4}$
- Ⓓ  $\frac{2}{6}$

**Part B**

What part of the garden is planted with carrots?

Ⓐ  $\frac{7}{8}$

Ⓑ  $\frac{3}{4}$

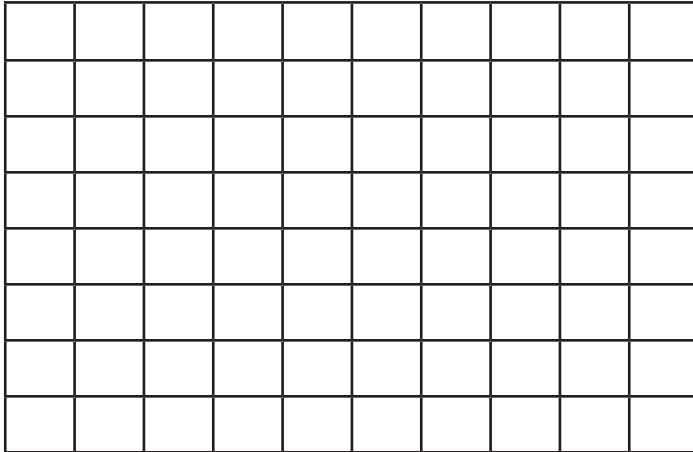
Ⓒ  $\frac{2}{4}$

Ⓓ  $\frac{1}{8}$

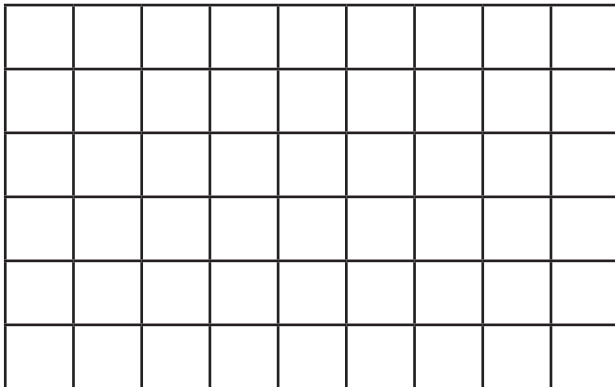
**DIRECTIONS: Use the information provided to answer questions 1–6.**

The Taylor family is painting three rooms in their house. The figures below show the dimensions of the rooms (in feet). Each square represents one square foot.

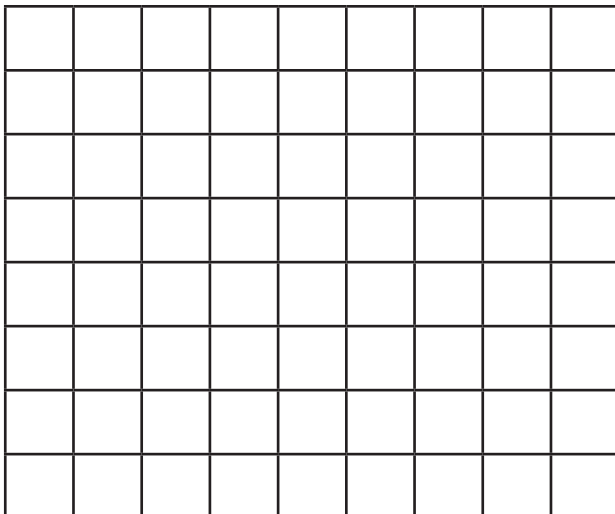
Room A



Room B



Room C



**1.** What is the area of Room A (in square feet)? Write your answer.

square feet

**2.** What is the perimeter of Room C (in feet)? Write your answer.

feet

3. Use the information provided to answer Part A and Part B.

**Part A**

The Taylors buy 6 paintbrushes that cost \$7 each. Then they spend \$10 on plastic covering to protect the floors. How much money do they spend in all?

- Ⓐ \$17
- Ⓑ \$42
- Ⓒ \$52
- Ⓓ \$67

**Part B**

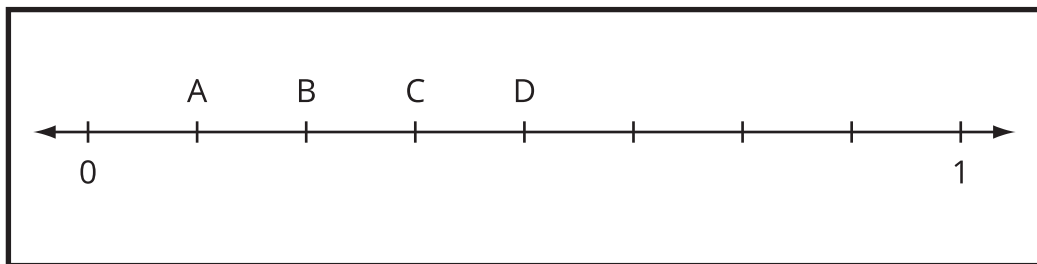
The Taylors buy 6 gallons of paint for \$58. Each gallon costs the same amount of money. How much does each gallon of paint cost, rounded to the nearest dollar?

- Ⓐ \$6
- Ⓑ \$8
- Ⓒ \$10
- Ⓓ \$12

4. The Taylors plan to paint 3 rooms. Each room will take about 2 hours to paint. If the Taylors pay a painter \$10 per hour to paint all 3 of the rooms, how much will they pay the painter?

- Ⓐ \$18
- Ⓑ \$24
- Ⓒ \$30
- Ⓓ \$60

5. Mrs. Taylor paints  $\frac{1}{4}$  of a room. Which point on the number line represents  $\frac{1}{4}$ ?



- Ⓐ A
- Ⓑ B
- Ⓒ C
- Ⓓ D

- 6.** Use the information provided to answer Part A and Part B.

The Taylors began painting at 8:15 a.m. They stopped at 11:30 a.m. for lunch.

**Part A**

How many minutes did they spend painting?

- Ⓐ 165
- Ⓑ 180
- Ⓒ 195
- Ⓓ 210

**Part B**

The Taylors start painting again after a one hour lunch. If they paint for 120 more minutes, what time do they finish?

- Ⓐ 1:30 p.m.
- Ⓑ 2:00 p.m.
- Ⓒ 2:30 p.m.
- Ⓓ 3:00 p.m.



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