

PSSA and Keystone Exams  
Summer 2023 Workshops

# PSSA, Grade 3 Math

*Kaylee Paints*

Handscoring  
Anchor Set



1. Kaylee is painting a picture for her art class.

Kaylee uses the colors red, yellow, green, orange, blue, and purple.

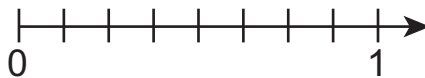
**A.** Purple is what fraction of Kaylee's colors?

**PUT** your answer in the **BLANK BELOW**.

**Answer:** \_\_\_\_\_

Kaylee paints  $\frac{2}{8}$  of her picture with yellow paint.

**B. PLOT** a point on the number line shown below to represent the fraction of Kaylee's picture that is yellow.



1. **Continued.** Please refer to the previous page for task explanation.

Kaylee painted a green rectangle and an orange rectangle on her picture.

The green rectangle has side lengths of 3 inches and 4 inches.

The orange rectangle has side lengths of 2 inches and 6 inches.

Kaylee makes the incorrect claim shown below.

The area of the green rectangle is less than the area of the orange rectangle since  $14 < 16$ .

**C. EXPLAIN** the mistake Kaylee **most likely** made when finding the areas of the two rectangles.

**D. REWRITE** Kaylee’s claim with the correct comparison of the areas.

# PSSA Math: Kaylee Paints (Grade 3); Anchor Set

## Grade 3 Math Kaylee Paints

### Assessment Anchor this item will be reported under:

**M03.A-F.1** Develop an understanding of fractions as numbers.

### Specific Anchor Descriptor addressed by this item:

**M03.A-F.1.1** Develop and apply number theory concepts to compare quantities and magnitudes of fractions and whole numbers.

**M03.D-M.3.1** Find the areas of plane figures.

**M03.D-M.4.1** Find and use the perimeters of plane figures.

### Scoring Guide:

| Score | In this item, the student –                                                                                                                                                                                                     |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4     | Demonstrates a thorough understanding of fractions as numbers by correctly solving problems and clearly explaining procedures.                                                                                                  |
| 3     | Demonstrates a general understanding of fractions as numbers by correctly solving problems and clearly explaining procedures with only minor errors or omissions.                                                               |
| 2     | Demonstrates a partial understanding of fractions as numbers by correctly performing a significant portion of the required task.                                                                                                |
| 1     | Demonstrates minimal understanding of fractions as numbers.                                                                                                                                                                     |
| 0     | The response has no correct answer and insufficient evidence to demonstrate any understanding of the mathematical concepts and procedures as required by the task. Response may show only information copied from the question. |

### Top Scoring Student Response And Training Notes:

| Score | Description                                                                                                    |
|-------|----------------------------------------------------------------------------------------------------------------|
| 4     | Student earns 4 points.                                                                                        |
| 3     | Student earns 3.0 – 3.5 points.                                                                                |
| 2     | Student earns 2.0 – 2.5 points.                                                                                |
| 1     | Student earns 0.5 - 1.5 points.<br>OR<br>Student demonstrates minimal understanding of fractions as numbers.   |
| 0     | Response is incorrect or contains some correct work that is irrelevant to the skill or concept being measured. |

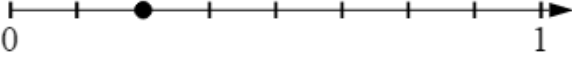


A.

| What?         | Why? |
|---------------|------|
| $\frac{1}{6}$ |      |

(1 score point)  
1 point for correct answer

B.

| What?                                                                                                                                                                                           | Why? |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| <br>OR<br><i>Student uses any other correct identification of <math>\frac{2}{8}</math> on the number line.</i> |      |

(1 score point)  
1 point for correct answer

C.

| What? | Why?                                                                                                                       |
|-------|----------------------------------------------------------------------------------------------------------------------------|
|       | <b>Sample Explanation:</b><br>Kaylee found the perimeters of both rectangles instead of the areas.<br><b>OR equivalent</b> |

(1 score points)  
1 point for correct and complete explanation  
OR ½ point for correct but incomplete explanation

D.

| What?                                                                                                                                                                                                                                                                             | Why? |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| <b>Sample Responses:</b><br>The area of the green rectangle is equal to the area of the orange rectangle since $12 = 12$ .<br><b>OR</b><br>The area of the green rectangle is equal to the area of the orange rectangle since $3 \times 4 = 2 \times 6$ .<br><b>OR equivalent</b> |      |

(1 score points)  
1 point for correct and complete response  
OR ½ point for correct but incomplete response

## MATHEMATICS

## SECTION 2

51. Kaylee is painting a picture for her art class.

Kaylee uses the colors red, yellow, green, orange, blue, and purple.

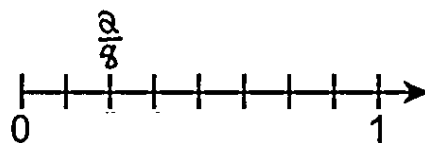
A. Purple is what fraction of Kaylee's colors?

PUT your answer in the **BLANK BELOW**.

Answer:  $\frac{1}{6}$

Kaylee paints  $\frac{2}{8}$  of her picture with yellow paint.

B. **PLOT** a point on the number line shown below to represent the fraction of Kaylee's picture that is yellow.



IB:ML 13.1870356.0048

## MATHEMATICS

## SECTION 2

51. *Continued.* Please refer to the previous page for task explanation.

Kaylee painted a green rectangle and an orange rectangle on her picture.

The green rectangle has side lengths of 3 inches and 4 inches.

The orange rectangle has side lengths of 2 inches and 6 inches.

Kaylee makes the incorrect claim shown below.

The area of the green rectangle is less than the area of the orange rectangle since  $14 < 16$ .

C. **EXPLAIN** the mistake Kaylee most likely made when finding the areas of the two rectangles.

Kaylee most likely found the perimeter of the rectangles by adding all the sides together.

For the green rectangle, she added  $3+3+4+4=14$ . For the orange rectangle, she added  $2+2+6+6=16$ .

Therefore, she found the perimeter instead of the area.

D. **REWRITE** Kaylee's claim with the correct comparison of the areas.

This is what Kaylee should have written: "The area of the green and orange rectangles are

the same since  $12=12$ . She should have gotten this by

multiplying  $3 \times 4 = 12$  and  $2 \times 6 = 12$ . Since they both equal 12, they are equal.



## MATHEMATICS

## SECTION 2

51. Kaylee is painting a picture for her art class.

Kaylee uses the colors red, yellow, green, orange, blue, and purple.

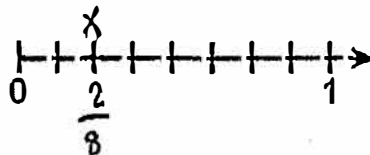
- A. Purple is what fraction of Kaylee's colors?

PUT your answer in the BLANK BELOW.

Answer:  $\frac{1}{6}$

Kaylee paints  $\frac{2}{8}$  of her picture with yellow paint.

- B. PLOT a point on the number line shown below to represent the fraction of Kaylee's picture that is yellow.





## MATHEMATICS

## SECTION 2

51. *Continued.* Please refer to the previous page for task explanation.

Kaylee painted a green rectangle and an orange rectangle on her picture.

The green rectangle has side lengths of 3 inches and 4 inches.

The orange rectangle has side lengths of 2 inches and 6 inches.

Kaylee makes the incorrect claim shown below.

The area of the green rectangle is less than the area of the orange rectangle since  $14 < 16$ .

C. **EXPLAIN** the mistake Kaylee most likely made when finding the areas of the two rectangles:

The mistake Kaylee most likely made when finding the areas  
of the two rectangles was that she found the perimeter  
instead of the area. The correct areas would be 12 and  
12. They would be equal to.

D. **REWRITE** Kaylee's claim with the correct comparison of the areas.

The area of the green rectangle is equal to the area  
of the orange rectangle since  $12 = 12$ .



## MATHEMATICS

## SECTION 2

51. Kaylee is painting a picture for her art class.

Kaylee uses the colors red, yellow, green, orange, blue, and purple.

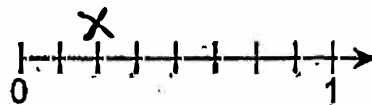
- A. Purple is what fraction of Kaylee's colors?

PUT your answer in the BLANK BELOW.

Answer:  $\frac{1}{6}$

Kaylee paints  $\frac{2}{8}$  of her picture with yellow paint.

- B. PLOT a point on the number line shown below to represent the fraction of Kaylee's picture that is yellow.





## MATHEMATICS

## SECTION 2

51. *Continued.* Please refer to the previous page for task explanation.

Kaylee painted a green rectangle and an orange rectangle on her picture.

The green rectangle has side lengths of 3 inches and 4 inches.

The orange rectangle has side lengths of 2 inches and 6 inches.

Kaylee makes the incorrect claim shown below.

The area of the green rectangle is less than the area of the orange rectangle since  $14 < 16$ .

C. **EXPLAIN** the mistake Kaylee most likely made when finding the areas of the two rectangles.

She didn't mutiply right.

D. **REWRITE** Kaylee's claim with the correct comparison of the areas.

$3 \times 4 = 12$ ,  $2 \times 6 = 12$ , so  
 $12 = 12$



## MATHEMATICS

## SECTION 2

51. Kaylee is painting a picture for her art class.

Kaylee uses the colors red, yellow, green, orange, blue, and purple.

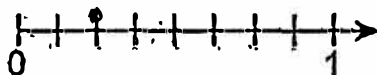
- A. Purple is what fraction of Kaylee's colors?

PUT your answer in the BLANK BELOW.

Answer:  $\frac{1}{5}$

Kaylee paints  $\frac{2}{8}$  of her picture with yellow paint.

- B. PLOT a point on the number line shown below to represent the fraction of Kaylee's picture that is yellow.







## MATHEMATICS

## SECTION 2

51. *Continued.* Please refer to the previous page for task explanation.

Kaylee painted a green rectangle and an orange rectangle on her picture.

The green rectangle has side lengths of 3 inches and 4 inches.

The orange rectangle has side lengths of 2 inches and 6 inches.

Kaylee makes the incorrect claim shown below.

The area of the green rectangle is less than the area of the orange rectangle since  $14 < 16$ .

C. **EXPLAIN** the mistake Kaylee most likely made when finding the areas of the two rectangles.

Kaylee made a mistake when she said  $14 < 16$  because  
you multiply 2 and 6 they are twelve together and  
with the other one 3 multiplied by 4 it equals 12.  
so they have the same area.

D. **REWRITE** Kaylee's claim with the correct comparison of the areas.

The area of the green rectangle is the same  
area as the orange rectangle since  $12 = 12$ .



## MATHEMATICS

## SECTION 2

51. Kaylee is painting a picture for her art class.

Kaylee uses the colors red, yellow, green, orange, blue, and purple.

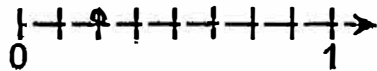
- A. Purple is what fraction of Kaylee's colors?

PUT your answer in the BLANK BELOW.

Answer:  $\frac{1}{6}$

Kaylee paints  $\frac{2}{8}$  of her picture with yellow paint.

- B. PLOT a point on the number line shown below to represent the fraction of Kaylee's picture that is yellow.





## MATHEMATICS

## SECTION 2

51. **Continued.** Please refer to the previous page for task explanation.

Kaylee painted a green rectangle and an orange rectangle on her picture.

The green rectangle has side lengths of 3 inches and 4 inches.

The orange rectangle has side lengths of 2 inches and 6 inches.

Kaylee makes the incorrect claim shown below.

The area of the green rectangle is less than the area of the orange rectangle since  $14 < 16$ .

C. **EXPLAIN** the mistake Kaylee most likely made when finding the areas of the two rectangles.

She got the wrong answer by probably either not know her multiplication facts or that she thought two rectangles couldn't have the same area, which they do.

D. **REWRITE** Kaylee's claim with the correct comparison of the areas.

The area of the green and orange rectangles are the same because  $2 \times 6$  and  $3 \times 4$  both equal 12.



## MATHEMATICS

## SECTION 2

51. Kaylee is painting a picture for her art class.

Kaylee uses the colors red, yellow, green, orange, blue, and purple.

- A. Purple is what fraction of Kaylee's colors?

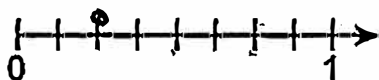
PUT your answer in the BLANK BELOW.

Answer:         

$\frac{1}{6}$

Kaylee paints  $\frac{2}{8}$  of her picture with yellow paint.

- B. PLOT a point on the number line shown below to represent the fraction of Kaylee's picture that is yellow.



F

## MATHEMATICS

## SECTION 2

51. *Continued.* Please refer to the previous page for task explanation.

Kaylee painted a green rectangle and an orange rectangle on her picture.

The green rectangle has side lengths of 3 inches and 4 inches.

The orange rectangle has side lengths of 2 inches and 6 inches.

Kaylee makes the incorrect claim shown below.

The area of the green rectangle is less than the area of the orange rectangle since  $14 < 16$ .

C. **EXPLAIN** the mistake Kaylee most likely made when finding the areas of the two rectangles.

The most likely mistake  
Kaylee did was she added instead  
of multiplying!

D. **REWRITE** Kaylee's claim with the correct comparison of the areas.

The correct area for the green is  
24 and orange is 24 so they're  
equal!



## MATHEMATICS

## SECTION 2

51. Kaylee is painting a picture for her art class.

Kaylee uses the colors red, yellow, green, orange, blue, and purple.

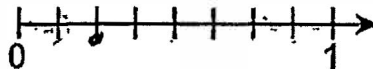
- A. Purple is what fraction of Kaylee's colors?

PUT your answer in the BLANK BELOW.

Answer: 6

Kaylee paints  $\frac{2}{8}$  of her picture with yellow paint.

- B. PLOT a point on the number line shown below to represent the fraction of Kaylee's picture that is yellow.



F

## MATHEMATICS

## SECTION 2

51. *Continued.* Please refer to the previous page for task explanation.

Kaylee painted a green rectangle and an orange rectangle on her picture.

The green rectangle has side lengths of 3 inches and 4 inches.

The orange rectangle has side lengths of 2 inches and 6 inches.

Kaylee makes the incorrect claim shown below.

The area of the green rectangle is less than the area of the orange rectangle since  $14 < 16$ .

C. **EXPLAIN** the mistake Kaylee most likely made when finding the areas of the two rectangles.

The mistake Kaylee most likely made is she misread the numbers or she misread the rectangle wrong.

D. **REWRITE** Kaylee's claim with the correct comparison of the areas.

The area of the of the green rectangle and the orange rectangle are the same since  $12 = 12$ .

## MATHEMATICS

## SECTION 2

51. Kaylee is painting a picture for her art class.

Kaylee uses the colors red, yellow, green, orange, blue, and purple.

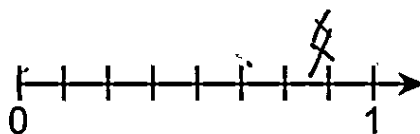
- A. Purple is what fraction of Kaylee's colors?

PUT your answer in the **BLANK BELOW**.

Answer:  $\frac{1}{6}$

Kaylee paints  $\frac{2}{8}$  of her picture with yellow paint.

- B. **PLOT** a point on the number line shown below to represent the fraction of Kaylee's picture that is yellow.





JBML 10.1873894.0013

## MATHEMATICS

## SECTION 2

51. **Continued.** Please refer to the previous page for task explanation.

Kaylee painted a green rectangle and an orange rectangle on her picture.

The green rectangle has side lengths of 3 inches and 4 inches.

The orange rectangle has side lengths of 2 inches and 6 inches.

Kaylee makes the incorrect claim shown below.

The area of the green rectangle is less than the area of the orange rectangle since  $14 < 16$ .

C. **EXPLAIN** the mistake Kaylee most likely made when finding the areas of the two rectangles.

She said the area and  
it is the length and  
so it is the perimeter

D. **REWRITE** Kaylee's claim with the correct comparison of the areas.

she said the area  
when side length are  
perimeters

## MATHEMATICS

## SECTION 2

51. Kaylee is painting a picture for her art class.

Kaylee uses the colors red, yellow, green, orange, blue, and purple.

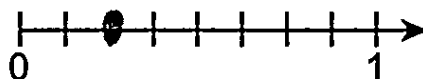
A. Purple is what fraction of Kaylee's colors?

PUT your answer in the BLANK BELOW.

Answer:  $\frac{1}{6}$

Kaylee paints  $\frac{2}{8}$  of her picture with yellow paint.

B. PLOT a point on the number line shown below to represent the fraction of Kaylee's picture that is yellow.



IBML02.1863884.0044



## MATHEMATICS

## SECTION 2



51. **Continued.** Please refer to the previous page for task explanation.

Kaylee painted a green rectangle and an orange rectangle on her picture.

The green rectangle has side lengths of 3 inches and 4 inches.

The orange rectangle has side lengths of 2 inches and 6 inches.

Kaylee makes the incorrect claim shown below.

The area of the green rectangle is less than the area of the orange rectangle since  $14 < 16$ .

C. **EXPLAIN** the mistake Kaylee most likely made when finding the areas of the two rectangles.

She didn't multiply the side correctly.

D. **REWRITE** Kaylee's claim with the correct comparison of the areas.

$$16 < 18$$



## MATHEMATICS

## SECTION 2

51. Kaylee is painting a picture for her art class.

Kaylee uses the colors red, yellow, green, orange, blue, and purple.

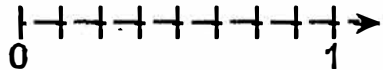
A. Purple is what fraction of Kaylee's colors?

PUT your answer in the BLANK BELOW.

Answer: blue

Kaylee paints  $\frac{2}{8}$  of her picture with yellow paint.

B. PLOT a point on the number line shown below to represent the fraction of Kaylee's picture that is yellow.





## MATHEMATICS

## SECTION 2

51. *Continued.* Please refer to the previous page for task explanation.

Kaylee painted a green rectangle and an orange rectangle on her picture.

The green rectangle has side lengths of 3 inches and 4 inches.

The orange rectangle has side lengths of 2 inches and 6 inches.

Kaylee makes the incorrect claim shown below.

The area of the green rectangle is less than the area of the orange rectangle since  $14 < 16$ .

C. **EXPLAIN** the mistake Kaylee most likely made when finding the areas of the two rectangles.

Kaylee made a mistake because the rectangles should have been the same size.

D. **REWRITE** Kaylee's claim with the correct comparison of the areas.

Kaylee was correct because the same size.



## MATHEMATICS

## SECTION 2

51. Kaylee is painting a picture for her art class.

Kaylee uses the colors red, yellow, green, orange, blue, and purple.

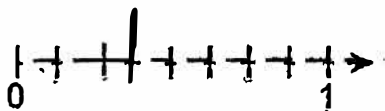
- A. Purple is what fraction of Kaylee's colors?

PUT your answer in the BLANK BELOW.

Answer:  $\frac{1}{6}$

Kaylee paints  $\frac{2}{8}$  of her picture with yellow paint.

- B. PLOT a point on the number line shown below to represent the fraction of Kaylee's picture that is yellow.





## MATHEMATICS

## SECTION 2

51. *Continued.* Please refer to the previous page for task explanation.

Kaylee painted a green rectangle and an orange rectangle on her picture.

The green rectangle has side lengths of 3 inches and 4 inches.

The orange rectangle has side lengths of 2 inches and 6 inches.

Kaylee makes the incorrect claim shown below.

The area of the green rectangle is less than the area of the orange rectangle since  $14 < 16$ .

C. EXPLAIN the mistake Kaylee most likely made when finding the areas of the two rectangles.

14 < 16

D. REWRITE Kaylee's claim with the correct comparison of the areas.

It will help

## MATHEMATICS

## SECTION 2

51. Kaylee is painting a picture for her art class.

Kaylee uses the colors red, yellow, green, orange, blue, and purple.

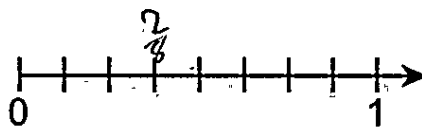
- A. Purple is what fraction of Kaylee's colors?

PUT your answer in the **BLANK BELOW**.

Answer:  $\frac{1}{6}$

Kaylee paints  $\frac{2}{8}$  of her picture with yellow paint.

- B. **PLOT** a point on the number line shown below to represent the fraction of Kaylee's picture that is yellow.





IBML 13.1865190.0060

## MATHEMATICS

## SECTION 2

51. *Continued.* Please refer to the previous page for task explanation.

Kaylee painted a green rectangle and an orange rectangle on her picture.

The green rectangle has side lengths of 3 inches and 4 inches.

The orange rectangle has side lengths of 2 inches and 6 inches.

Kaylee makes the incorrect claim shown below.

The area of the green rectangle is less than the area of the orange rectangle since  $14 < 16$ .

C. **EXPLAIN** the mistake Kaylee most likely made when finding the areas of the two rectangles.

She did not make a  
mistake because green is less  
than orange.

D. **REWRITE** Kaylee's claim with the correct comparison of the areas.

Green is less than orange.