

## RATIO REPRESENTATIONS (PR1)

### Essentials Pre-Assessment **Answer Key**

1. Tiana wants to paint her room orange. In order to make the right color orange, she mixes two parts red with six parts yellow.

a. Create a tape diagram to represent Tiana's orange paint mixture.



b. How many parts of red paint does she need if she wants to make 64 total parts?

**16 parts of red paint**

2. Using the table to the right, do the numbers in the rows represent equivalent ratios? \_\_\_\_ Explain.

**No; Period 1 and 3 are equivalent, but period 2 is not. Period 2 has a 1:1 ratio. Period 1 and 3 have a ratio of 2:1.**

|          | Number of pencils | Number of rulers |
|----------|-------------------|------------------|
| Period 1 | 58                | 29               |
| Period 2 | 27                | 27               |
| Period 3 | 74                | 37               |

3. Murphy walks 8 miles every 2 hours.

a. Create a double number line to represent this situation.



b. How many miles does he walk per hour?

**4 miles**

c. At that rate, how many hours will it take Murphy to walk 21 miles?

**5.25 hours**

4. Buster gets \$60 in allowance every four weeks. He is saving all of his allowance to buy a game system that costs \$360. How many weeks will it take him to save up enough money for the system? Use a table, tape diagram, or double number line to show your reasoning.

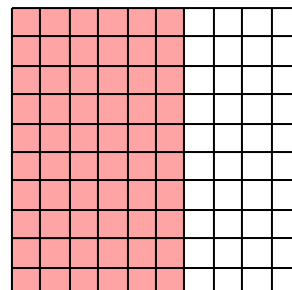
**24 weeks**

5. Sonia and Carlos are shopping in the grocery store. They see the sign that says "10 pounds of apples for \$4.00." Sonia says that the sign means you can get  $2\frac{1}{2}$  pounds of apples for one dollar. Carlos says Sonia is wrong and that the sign means it cost \$0.40 per one pound of apples. Who is correct Sonia, Carlos or both of them? Explain.

**Both Sonia and Carlos are correct. Sonia makes a unit rate with pounds per dollar. Carlos makes a unit rate with dollars per pound. But they are equivalent statements.**

**PERCENTS (PR2)**  
**Essentials Pre-Assessment Answer Key**

1. The drawing below represents a garden. The shaded part is planted.



- What fractional part is planted?  $\frac{3}{5}$
- Color the hundred-square so that the same fractional part is planted.  
*Shading will vary; 60 of the 100 squares are shaded.*
- Write the part that is shaded as a decimal, and percent.  
*0.6, 60%*

2. Complete the table.

|    | Fraction      | Decimal | Percent |
|----|---------------|---------|---------|
| a. | $\frac{3}{4}$ | 0.75    | 75%     |
| b. | $\frac{4}{5}$ | 0.8     | 80%     |

3. Change  $\frac{2}{7}$  to a decimal.

0.285714

4. Choose all amounts that are equal to \$20.

A. 10% of \$200

B. 20% of \$10

C. 50% of \$40

D. 25% of \$80

5. Selena is buying a soccer jersey for \$50. Show work.

|                                                                                                                |                                                                                                |
|----------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| a. If the jersey is on sale for 20% off, how much would the jersey be before sales tax?<br><br><div>\$40</div> | b. If sales tax is 5%, how much would the total cost be with sales tax?<br><br><div>\$42</div> |
|----------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

# **PROPORTIONAL REASONING APPLICATIONS (PR3)** **Essentials Pre-Assessment Answer Key**

1. Jenny biked 3 miles in 15 minutes. Use a table or a double number line to answer the following questions.
  - a. At that rate, how far could she go in 2 hours?  
     **24 miles**
  - b. At that rate, how long would it take her to go 15 miles?  
     **75 minutes**

2. Circle ALL equations for which  $x = 5$  is a solution.

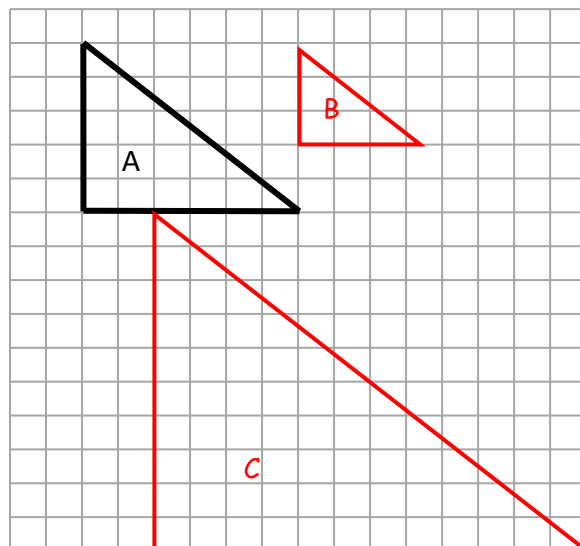
$$\frac{1}{x} = \frac{12}{60}$$

$$\frac{x}{3} = \frac{25}{21}$$

$$\frac{x}{6} = \frac{12}{15}$$

$$\frac{10}{15} = \frac{x}{6}$$

3. Use the grid and triangle to the right.
  - a. Draw a scale drawing of the triangle using a scale factor of 2 : 1. Label the triangle B.
  - b. Draw a scale drawing of the triangle using a scale factor of 1 : 2. Label the triangle C.



# **PROPORTIONAL REASONING APPLICATIONS (PR3)** **Essentials Pre-Assessment Continued Answer Key**

4. Chris bought 3 pounds of cheese at Store A for \$6.75 and 5 pounds of cheese at Store B for \$12.50.

Table entries, graph scaling, and explanations may vary.

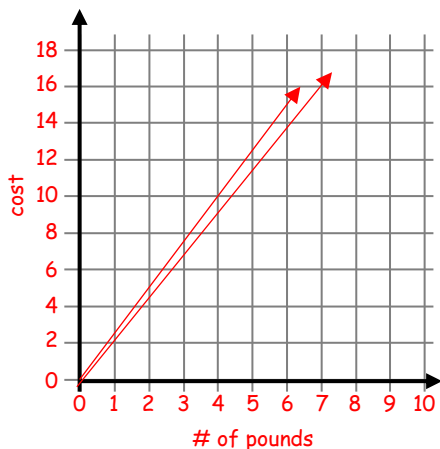
- a. Complete the table to show the costs at Store A.

| # of pounds (x) | Cost (y) |
|-----------------|----------|
| 3               | 6.75     |
| 1               | 2.25     |
| 2               | 4.50     |
| 4               | 9.00     |
| 0               | 0        |

- b. Complete the table to show the costs at Store B.

| # of pounds (x) | Cost (y) |
|-----------------|----------|
| 5               | 6.75     |
| 1               | 2.50     |
| 2               | 5.00     |
| 3               | 7.50     |
| 0               | 0        |

- c. Graph the data for both stores. Label and scale the axes.



- d. Which store offers the better buy? Explain.

Store A has the better buy because it cost \$2.25 per pound while Store B cost \$2.50 per pound.

- e. Using the graph, fill in the ordered pair (1, 2.25) for Store A. What does this point represent?

It represents the unit price.