

## Cumulative Review

Determine the most efficient strategy, and then solve for the missing value.

Remember to ask yourself these questions:

- Can I easily multiply by a scale factor?
- If not, is 1 of the numbers in the complete ratio the greatest common factor of both numbers, so I can find the unit rate and then easily multiply by a scale factor?

If you answer, "No" to both questions, you can always use cross products.

1.  $\frac{\text{bananas}}{\text{grapes}} = \frac{2}{10} = \frac{x}{35}$

What strategy? \_\_\_\_\_

Show your work:

$x =$  \_\_\_\_\_

2.  $\frac{\text{kangaroos}}{\text{joeys}} = \frac{3}{9} = \frac{x}{27}$

What strategy? \_\_\_\_\_

Show your work:

$x =$  \_\_\_\_\_

3. On the farm, Mason can make 6 bales of hay in 2 hours. How many bales of hay could Mason make in 7 hours?

$$\frac{\text{bales}}{\text{hours}} = \frac{6}{2} = \frac{x}{7}$$

4. Determine whether the ratios are proportional by using cross products.

$$\frac{3}{6} \quad \frac{8}{16}$$

## Practice

1. Highlight the important information in the problem.
2. Answer the questions and fill in the sections of the graphic organizer.
3. Compare answers with a partner and discuss reasoning.

Serena's recipe for apple pie calls for 6 apples and 3 cups of sugar per pie. She is starting her own business and wants to make 30 pies, so she has purchased 180 apples and 90 cups of sugar. Set up a proportion to represent the relationship between the amounts of ingredients per pie compared to the amounts needed for 30 pies.

### Understand

What is the question?

### Plan

What quantities am I comparing?

What do I know?

What quantities go together?

How would I set this up? (use the format)

**Units**

**Ratio 1**

**Ratio 2**

\_\_\_\_\_ = \_\_\_\_\_

### Solve

Which formats represent the relationship in the problem?

**Units**

**Ratio 1**

**Ratio 2**

\_\_\_\_\_ = \_\_\_\_\_

**Units**

**Ratio 1**

**Ratio 2**

**Units**

\_\_\_\_\_ = \_\_\_\_\_

**Units**

**Ratio 1**

**Ratio 2**

**Units**

\_\_\_\_\_ = \_\_\_\_\_

### Check

Is my answer reasonable? How do I know?

Name: \_\_\_\_\_

## Independent Practice

1. Highlight the important information in the problem.
  2. Answer the questions and fill in the sections of the graphic organizer.
- Jose's car gets 30 miles per gallon. He traveled 240 miles and used 8 gallons of gas. Set up a proportion to show the relationship between the miles his car travels per gallon and how far the car traveled on his trip.

### Understand

What is the question?

### Plan

What quantities am I comparing?

What do I know?

What quantities go together?

How would I set this up? (use the format)

**Units**      **Ratio 1**      **Ratio 2**

\_\_\_\_\_ = \_\_\_\_\_

### Solve

Which formats represent the relationship in the problem?

**Units**      **Ratio 1**      **Ratio 2**

\_\_\_\_\_ = \_\_\_\_\_

**Units**      **Ratio 1**      **Ratio 2**      **Units**

\_\_\_\_\_ = \_\_\_\_\_

**Units**      **Ratio 1**      **Ratio 2**      **Units**

\_\_\_\_\_ = \_\_\_\_\_

### Check

Is my answer reasonable? How do I know?



## Answer Key: Cumulative Review

Determine the most efficient strategy, and then solve for the missing value. Remember to ask yourself these questions:

- Can I easily multiply by a scale factor?
- If not, is 1 of the numbers in the complete ratio the greatest common factor of both numbers, so I can find the unit rate and then easily multiply by a scale factor?

If you answer, "No" to both questions, you can always use cross products.

1.  $\frac{\text{bananas}}{\text{grapes}} = \frac{2}{10} = \frac{x}{35}$

What strategy? Unit rate

Show your work:

Units	Ratio 1	Unit rate	Ratio 2
bananas	$\frac{2 \div 2}{10 \div 2}$	$\frac{1 \times 7}{5 \times 7}$	$\frac{7}{35}$
grapes			

$x = \underline{7}$

2.  $\frac{\text{kangaroos}}{\text{joeys}} = \frac{3}{9} = \frac{x}{27}$

What strategy? Scale factor

Show your work:

$$\frac{\text{kangaroos}}{\text{joeys}} = \frac{3 \cdot 3}{9 \cdot 3} = \frac{9}{27}$$

$x = \underline{9}$

3. On the farm, Mason can make 6 bales of hay in 2 hours. How many bales of hay could Mason make in 7 hours?

$$\frac{\text{bales}}{\text{hours}} = \frac{6}{2} = \frac{x}{7} \quad x = 21$$

4. Determine whether the ratios are proportional by using cross products.

$$\frac{3}{6} \quad \frac{8}{16} \quad 48 = 48$$

proportional



## Answer Key: Practice

1. Highlight the important information in the problem.
2. Answer the questions and fill in the sections of the graphic organizer.
3. Compare answers with a partner and discuss reasoning.

Serena's recipe for apple pie calls for 6 apples and 3 cups of sugar per pie. She is starting her own business and wants to make 30 pies, so she has purchased 180 apples and 90 cups of sugar. Set up a proportion to represent the relationship between the amounts of ingredients per pie compared to the amounts needed for 30 pies.

### Understand

What is the question?

*We are looking for the proportion that represents the amount of apples to sugar in Serena's pies.*

### Plan

What quantities am I comparing?

*Apples to sugar*

What do I know?

*6 apples and 3 cups of sugar; 180 apples and 90 cups of sugar*

What quantities go together?

*6 apples and 3 cups of sugar; 180 apples and 90 cups of sugar*

How would I set this up? (use the format)

Units	Ratio 1	Ratio 2
Apples	6	180
Sugar	3	90

### Solve

Which formats represent the relationship in the problem?

Units	Ratio 1	Ratio 2
Sugar	3	90
Apples	6	180

Units	Ratio 1	Ratio 2	Units
Apples	6	3	Sugar
Apples	180	90	Sugar

Units	Ratio 1	Ratio 2	Units
Apples	180	90	Sugar
Apples	6	3	Sugar

### Check

Is my answer reasonable? How do I know?

*My answers are reasonable because we proved a relationship exists and all cross products are the same, proving proportionality.*



## Answer Key: Independent Practice

1. Highlight the important information in the problem.
  2. Answer the questions and fill in the sections of the graphic organizer.
- Jose's car gets 30 miles per gallon. He traveled 240 miles and used 8 gallons of gas. Set up a proportion to show the relationship between the miles his car travels per gallon and how far the car traveled on his trip.

### Understand

What is the question?

*We are looking for the proportion that represents the rate of gas Jose uses.*

### Plan

What quantities am I comparing?

*Miles and gallons*

What do I know?

*30 miles per 1 gallon; 240 miles per 8 gallons*

What quantities go together?

*30 miles per 1 gallon; 240 miles per 8 gallons*

How would I set this up? (use the format)

Units	Ratio 1	Ratio 2
Miles	30	240
Gallons	1	8

### Solve

Which formats represent the relationship in the problem?

Units	Ratio 1	Ratio 2
Gallons	1	8
Miles	30	240

  

Units	Ratio 1	Ratio 2	Units
Gallons	1	30	Miles
Gallons	8	240	Miles

  

Units	Ratio 1	Ratio 2	Units
Gallons	8	240	Miles
Gallons	1	30	Miles

### Check

Is my answer reasonable? How do I know?

*My answers are reasonable because we proved a relationship exists and all cross products are the same, proving proportionality.*