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2.1-2.3 Review

Student: _____	Instructor: Bethany Mampre	Assignment: Topic 2 Review
Date: _____	Course: digits - grade 7 (2)	Homework
Time: _____	Book: digits - grade 7	

1. The table shows a proportional relationship between x and y. Complete the table.

x	5	6	7	8
y	30	36	42	48
Ratio $\frac{y}{x}$?	?	$\frac{6}{1}$?

Complete the table.

x	5	6	7	8
y	30	36	42	48
Ratio $\frac{y}{x}$	<input type="text"/>	<input type="text"/>	$\frac{6}{1}$	<input type="text"/>

(Simplify your answers.)

2. Decide whether the table shows a proportional relationship between x and y.

x	3	5	6	8
y	9	25	36	64

The table does not show a proportional relationship between x and y.
 does

3. The amount of seed needed for a landscaper to cover a lawn is shown in the table. Decide if the relationship between the amount of seed and the area it covers is proportional.

Lawn Seed	
Seed (oz)	Area Covered (ft ²)
1	20
2	40
3	60
4	80

The table does not show a proportional relationship between the amount of seed and the area it covers.
 does

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4. **Cooking** At a café, the cook uses a recipe that calls for eggs and milk. The amounts of eggs and milk have a proportional relationship. Complete the table.

Ingredients in Recipe			
Number of Eggs	4	5	?
Cups of Milk	8	?	12
Ratio $\frac{\text{Milk}}{\text{Eggs}}$?	$\frac{2}{1}$	$\frac{2}{1}$

Complete the table.

Ingredients in Recipe			
Number of Eggs	4	5	<input type="text"/>
Cups of Milk	8	<input type="text"/>	12
Ratio $\frac{\text{Milk}}{\text{Eggs}}$	<input type="text"/>	$\frac{2}{1}$	$\frac{2}{1}$

(Simplify your answers.)

5. Does the equation $y = 8x$ show a proportional relationship between x and y ? Explain.

Choose the correct answer below.

- A. Yes, the graph of the equation is a straight line that passes through the origin.
- B. Yes, the graph of the equation is a straight line and does not pass through the origin.
- C. No, the graph of the equation is not a straight line.
- D. No, the graph of the equation does not pass through the origin.

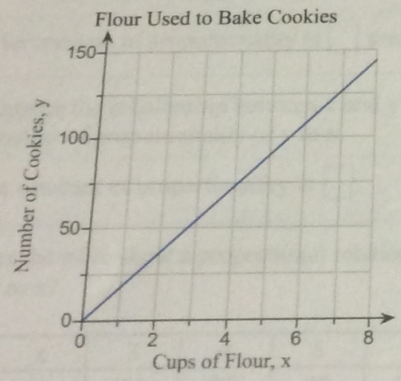
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6. **Reasoning** Does the equation $y = 2x + 1$ show a proportional relationship between x and y ? Explain. Use pencil and paper. How can you tell whether an equation of the form $y = mx + b$ shows a proportional relationship or some other relationship? Explain.

Does the equation show a proportional relationship?

- A. The equation does not show a proportional relationship because its graph is not a straight line.
- B. The equation does not show a proportional relationship because its graph does not pass through the origin.
- C. The equation shows a proportional relationship because its graph passes through the origin.
- D. The equation shows a proportional relationship because its graph is a straight line.

7. A baker likes to make cookies. The graph shows a proportional relationship between cups of flour used and number of cookies made. What does the point $(0,0)$ represent? What does the point $(1,18)$ represent?



What does the point $(0,0)$ represent? Select all that apply.

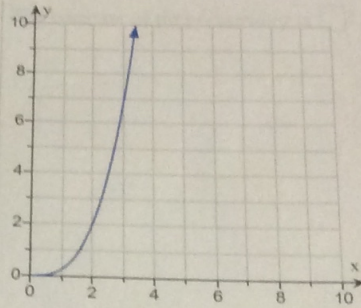
- A. The baker makes 0 cookies with 0 cups of flour.
- B. The unit rate is 0 cups of flour per cookie.
- C. The baker needs 0 cups of flour to make 0 cookies.
- D. The unit rate is 0 cookies per cup of flour.

What does the point $(1,18)$ represent? Select all that apply.

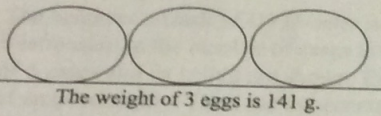
- A. The unit rate is 18 cups of flour per cookie.
- B. The baker makes 18 cookies with 1 cup of flour.
- C. The unit rate is 18 cookies per cup of flour.
- D. The baker needs 18 cups of flour to make 1 cookie.

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8. Does the graph show a proportional relationship between x and y ?
 Choose the correct answer below.
- A. Yes, because the graph is a straight line.
 - B. No, because the graph does not pass through the origin.
 - C. Yes, because the graph passes through the origin.
 - D. No, because the graph is not a straight line.



9. The weight of 3 eggs is shown. Identify the constant of proportionality of total weight to number of eggs.



The constant of proportionality is grams per egg.

10. Suppose the relationship between x and y is proportional. When x is 3, y is 69. Identify the constant of proportionality of y to x .

The constant of proportionality is .

11. Does the table show a proportional relationship? If so, what is the constant of proportionality of y to x ?

x	3	4	5	6
y	54	72	90	108

Select the correct choice below. If necessary, fill in the answer box to complete your choice.

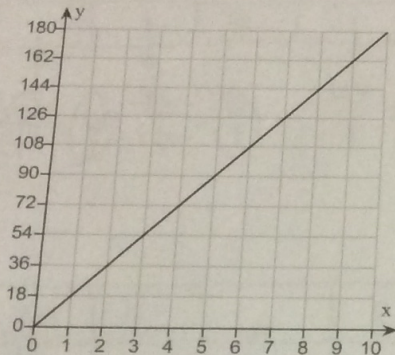
- A. The table shows a proportional relationship. The constant of proportionality is .
- B. The table does not show a proportional relationship.

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12. The variable y has a proportional relationship with x as suggested by the graph. Use the graph to find the constant of proportionality.



The constant of proportionality is .

13. The height of a stack of DVD cases is in a proportional relationship to the number of cases in the stack. A stack of 6 cases and its height are shown. Find the constant of proportionality. Then use the constant of proportionality to find the height of a stack of 13 cases.

Golden Oldies, 2005
Golden Oldies, 2004
Golden Oldies, 2003
Golden Oldies, 2002
Golden Oldies, 2001
Golden Oldies, 2000

The height of 6 DVD cases is 96 mm.

The constant of proportionality is millimeters per DVD case.

The height of 13 DVD cases is millimeters.