

Name: _____ Units: _____ Date: _____

6th Grade CCA Unit 5: Ratios and Proportions Study Guide

Directions: Carefully read and follow the directions for each section. Remember to SHOW YOUR WORK and write your answers on the lines provided.

Understands and Applies Proportional Reasoning

<p>2 points LT 1</p> <p>Score:</p>	<p>Write the unit rate for each situation. Don't forget UNITS!!!</p> <p>1.) Traveling 180 mi in 3 hours</p> <p>1.) _____</p> <p>2.) 256 miles per 8 gallons of gas</p> <p>2.) _____</p>										
<p>2 points LT 1</p> <p>Score:</p>	<p>3.) John sold 56 candy bars and Nina sold 24 candy bars.</p> <p>3a.) Write a ratio for the number of candy bars Nina sold to the number of candy bars John sold. Write the ratio in <u>simplest form</u>.</p> <p>3a.) _____</p> <p>3b.) Write a ratio for the number of candy bars John sold to the total number of candy bars sold. Write the ratio in <u>simplest form</u>.</p> <p>3b.) _____</p>										
<p>1 point LT 1</p> <p>Score:</p>	<p>4.) Use the ratio table to find the unit rate.</p> <p>Servings per Package</p> <table border="1" data-bbox="316 1386 730 1522"> <tr> <td>Package</td> <td>3</td> <td>5</td> <td>7</td> <td>9</td> </tr> <tr> <td>Servings</td> <td>15</td> <td>25</td> <td>35</td> <td>45</td> </tr> </table> <p>4.) _____</p>	Package	3	5	7	9	Servings	15	25	35	45
Package	3	5	7	9							
Servings	15	25	35	45							

Learning Target #1 Score: Add points from 1 - 4: _____/5

<p>1 point LT 2</p> <p>Score:</p>	<p>Does the pair of ratios form a proportion? Explain your reasoning.</p> <p>5.) $\frac{3}{15}, \frac{8}{40}$ Circle One: Yes No</p> <p>Explanation: _____</p> <p>_____</p> <p>_____</p>
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1 point LT 2 Score:	6.) The table shows the rate of sit-ups you can do in a certain amount of time. Are the rates proportional? Show your math and explain your reasoning.	<table border="1"> <tr> <th>Minutes</th> <th>Sit-ups</th> </tr> <tr> <td>2</td> <td>90</td> </tr> <tr> <td>4</td> <td>180</td> </tr> <tr> <td>6</td> <td>250</td> </tr> </table>	Minutes	Sit-ups	2	90	4	180	6	250
	Minutes	Sit-ups								
	2	90								
	4	180								
6	250									
Circle One: Yes No										
Explanation: _____ _____ _____										

Learning Target #2 Score: Add points from 5 - 6: _____/2

1 point LT 3 Score:	7.) Solve: $\frac{5}{8} = \frac{x}{34}$
	<div style="text-align: right;">7.) _____</div>

1 point LT 3 Score:	Solve the word problem using proportions. 8.) A recipe calls for 3 cups of sugar to make 120 cookies. How much sugar is needed to make 80 cookies?
	<div style="text-align: right;">8.) _____</div>

2 points LT 3 Score:	9.) The ratio of white milk to chocolate milk in a pudding recipe is 3 : 5. The recipe uses 24 cups of milk. How much of each type of milk is needed?
	<div style="text-align: right;">9.) white milk = _____ chocolate milk = _____</div>

Learning Target #3 Score: Add points from 7 - 9: _____/4

2 points LT 4 Score:	Solve the proportion.
	10.) $\frac{4}{11} = \frac{5}{2x}$
	11.) $\frac{3}{5} = \frac{2a+4}{60}$
	<div style="text-align: right;">10.) _____</div> <div style="text-align: right;">11.) _____</div>

Learning Target #4 Score: Add points from 10-11: _____/2

3 points
LT 5

12a.) Find the constant of proportionality and the equation from the graph.

Constant: _____

Equation: _____

12b.) Is the relationship proportional? Explain.

3 points
LT 5

13.) The graph shows the distance you and your friend drive on a trip.

13a.) Find the slope of each line.
You: _____ Friend: _____

13b.) How much faster are you traveling than your friend?

13b.) _____

Learning Target #5 Score: Add points from 12-13: _____/6

1 point
LT 6

Tell whether x and y show direct variation. Explain your reasoning.

14.)

x	2	4	6	8
y	5	10	15	20

Score:

Explain:

Direct Variation: Yes No

1 point
LT 6

Tell whether x and y show direct variation. Explain your reasoning.

15.) $y - 6 = 3x$

Score:

Explain:

Direct Variation: Yes No

Learning Target #6 Score: Add points from 14-15 _____/2

Answer Key

1.) 60 mph	2.) 32 mpg (mi/gal)	3a.) 3:7 3b.) 7:10	4.) 5 servings per package
5.) yes-cross products are equal	6.) No- not the same unit rate	7.) $x = 21.25$	8.) 2 cups of sugar
9.) 9 cups white milk 15 cups chocolate milk	10.) $x = 6.875$	11.) $x = 16$	12a.) constant = 13 Equation: $y = 13x$
12b.) yes-there is a constant rate of change (slope of 13)	13a.) you: 50 friend: 30	13b.) you are traveling 20 mph faster than your friend	
14.) yes-there is a constant rate of change (unit rate is 2.5) and it passes through (0, 0)	15.) no-the graph does not pass through (0,0)		