

Warm Up back of 23

For every Red there are 3 Blue marbles in the jar. Make a ratio table and answer the question below.

Red	1	2	3	4
Blue	3	6	9	12

When there are 4 red marbles, how many blue marbles are in the jar?

12

What is the better buy?

16 slices of pizza for \$32

$$\frac{\$32}{16} = \frac{\$2}{1}$$

✓ 8 slices of pizza for \$12

$$\frac{\$12}{8} = \frac{\$1.50}{1}$$

Name:	Date:
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Topic:	Class:
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Main Ideas/Questions	Notes/Examples
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Proportional vs. Nonproportional Relationships

- If the ratios or rates of two quantities are equal, then the quantities are proportional.
- If the ratios or rates of two quantities are not equal, then the quantities are nonproportional.

EXAMPLE

Jasmin is baking cookies and mini cupcakes for a competition. The tables below show the number of cups of sugar she has used for each dessert after the every three dozen made. Complete each table and determine the type of relationship.

Cookies

Dozen	Cups of Sugar	Rate
3	12	4
6	22	3.67
9	36	4
12	45	3.75

Mini Cookies

Dozen	Cups of Sugar	Rate
3	9	3
6	18	3
9	27	3
12	36	3

Handwritten notes: $12 \div 3$, $22 \div 6$, $36 \div 9$, $45 \div 12$ (left); $9 \div 3$, $18 \div 6$, $27 \div 9$, $36 \div 12$ (right)

► The sugar used in the cookies is nonproportional to the number of dozen baked because Rate of Sugar to dozen is not equal.

► The sugar used in the mini cupcakes is proportional to the number of dozen baked because Rate of sugar to dozen is equal.

MORE PRACTICE

Directions: Determine whether the quantities in each table represent a proportional relationship. If yes, give the constant rate.

1.

Number of Items Sold	5	10	15	20
Amount Raised (\$)	\$30	\$60	\$90	\$120

Handwritten: 6 6 6 6, **yes**, CR = 6

2.

Hours of Snow	1	2	3	4
Total Accumulation	3.5	6	8.5	12

Handwritten: **no**

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Handwritten: 3.5 3 8.5 5

	<p>3.</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 25%;">Green Marbles</td> <td>8</td> <td>10</td> <td>12</td> <td>14</td> </tr> <tr> <td>Red Marbles</td> <td>10</td> <td>12</td> <td>14</td> <td>16</td> </tr> </table>	Green Marbles	8	10	12	14	Red Marbles	10	12	14	16					
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	<p>4.</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 25%;">Pounds of Fudge</td> <td>5</td> <td>6</td> <td>7</td> <td>8</td> </tr> <tr> <td>Cost (\$)</td> <td>\$4.00</td> <td>\$4.80</td> <td>\$5.60</td> <td>\$6.40</td> </tr> </table>	Pounds of Fudge	5	6	7	8	Cost (\$)	\$4.00	\$4.80	\$5.60	\$6.40					
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COMPLETING TABLES	<p>Directions: If the following tables represent a proportional relationship, complete the table.</p>															
	<p>7. Lucy spends \$1.75 on a cup of coffee each day.</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 25%;">Days</td> <td>1</td> <td>3</td> <td>5</td> <td>7</td> </tr> <tr> <td>Money Spent (\$)</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>	Days	1	3	5	7	Money Spent (\$)									
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	<p>8. A car travels 52 miles each hour.</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 25%;">Hours</td> <td>1</td> <td>2</td> <td>5</td> <td>8</td> </tr> <tr> <td>Miles</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>	Hours	1	2	5	8	Miles									
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<p>9. Jose' uses $1\frac{2}{3}$ bags of grass seed for every 400 square feet of his yard.</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 25%;">Square Feet</td> <td>400</td> <td>800</td> <td>1,200</td> <td>1,600</td> </tr> <tr> <td>Bags of Grass Seed</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>	Square Feet	400	800	1,200	1,600	Bags of Grass Seed										
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<p>10. An umbrella company can make 75 umbrellas a day. Complete the chart, then determine how many umbrellas they make in two weeks.</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 25%;">Days</td> <td>2</td> <td>4</td> <td>6</td> <td>8</td> </tr> <tr> <td>Umbrellas Made</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>	Days	2	4	6	8	Umbrellas Made										
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Smart
Score 90

IXL Lessons 6th Grade

R.3 Equal Ratios

R.5 Ratio Tables

R.9 Unit Rates R.10 Proportional vs
Nonproportional