

**M7A Chapter 5 Quiz – Not graded!**

Express each ratio as a fraction in simplest form.

<p>1. \$32 for 10 tickets</p> $\frac{32}{10} = \frac{16}{5}$	<p>2. 450 miles in 6 hours</p> $\frac{450}{6} = \frac{225}{3} = \frac{75}{1}$
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Find the unit rate

<p>3. \$58 for 5 tickets</p> $\frac{\$58}{5} = \$11.60 \text{ PER TICKET}$	<p>4. Russell run <math>\frac{9}{10}</math> mile in 5 minutes. How far does he run in one minute?</p> $\frac{9}{10} \div 5 = \frac{9}{10} \cdot \frac{1}{5} = \frac{9}{50} \text{ OF A MILE}$
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Solve

<p>5. James downloaded 8 songs in 3 minutes. At this rate, how many songs could he download in 30 minutes?</p> $\frac{8}{3} = \frac{x}{30} \quad x=80$ <p>80 SONGS IN 30 MINUTES</p>	<p>6. A farmer owns 12 cows. The cows produce about 90 gallons of milk a day. At this rate, how many gallons a day could 20 cows produce?</p> $\frac{\text{GAL.}}{\text{COWS}} \quad \frac{90}{12} = \frac{x}{20} \quad 90(20) = 12(x)$ $\frac{1800}{12} = \frac{12x}{12} \leftarrow \text{COEFFICIENT}$ $150 = x$ <p>20 COWS COULD PRODUCE 150 GALLONS OF MILK</p>
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Simplify

<p>7. <math>\frac{4}{1} = \frac{1}{5}</math></p> $4 \div \frac{1}{5} = 4 \cdot \frac{5}{1} = 20$	<p>8. <math>\frac{1}{2} = \frac{1}{6}</math></p> $\frac{1}{2} \div \frac{1}{6} = \frac{1}{2} \cdot \frac{6}{1} = \frac{6}{2} = 3$	<p>9. <math>\frac{4}{5} = \frac{9}{10}</math></p> $\frac{4}{5} \div \frac{9}{10} = \frac{4}{5} \cdot \frac{10}{9} = \frac{40}{45} = \frac{8}{9}$
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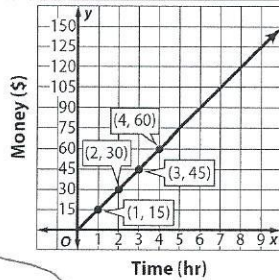
10. Is the set of numbers in the table proportional? If the relationship is proportional, identify the constant of proportionality.

(x)	Checks Written	3	6	9	12
(y)	Bank Fee (\$)	3.75	7.50	11.25	15.00

THE CONSTANT OF PROPORTIONALITY IS 1.25

$$\frac{3.75}{3} = \frac{7.50}{6} = \frac{11.25}{9} = \frac{15}{12} = \text{ALL THE RATIOS SIMPLIFY TO } \frac{1.25}{1}$$

11. What is the Constant of Proportionality for the data shown in the graph to the right?



$$\frac{15}{1} = \frac{30}{2} = \frac{45}{3} = \frac{60}{4}$$

THE CONSTANT OF PROPORTIONALITY IS 15

12. A recipe for chocolate chip cookies uses 3 cups flour and 2 sticks of butter. Is the amount of butter used proportional to the number of cups of flour used? Explain

YES, PROPORTIONAL BECAUSE THE AMOUNT OF BUTTER VARIES DIRECTLY WITH THE AMOUNT OF FLOUR.

Solve each proportion

13.  $\frac{a \times 7}{64} = \frac{7}{8}$

$$7(8) = 56$$

$a = 56$

14.  $\frac{2}{3} = \frac{k}{12.6}$

$$2(12.6) = 3(k)$$

$$\frac{25.2}{3} = \frac{3k}{3} \leftarrow \text{COEFFICIENT}$$

$$8.4 = k$$

15.  $\frac{4.2}{4.8} = \frac{7}{n}$

$$4.2(n) = 4.8(7)$$

$$\frac{4.2n}{4.2} = \frac{33.6}{4.2}$$

$$n = 8$$

16. A principal is ordering pizza for a school party. She knows 9 pizzas will feed 25 students. If there are 300 students at the school, how many pizzas will she need to buy?

PIZZA STUDENTS  $\frac{9}{25} = \frac{x}{300}$

$$25x = 9(300)$$

$$\frac{25x}{25} = \frac{2700}{25}$$

$$x = 108$$

SHE WILL NEED 108 PIZZAS FOR 300 STUDENTS

17. A boat traveled 150 feet in 9.7 seconds. How far would the boat travel in 1 minute? How far in 1 minute 30 seconds?

FEET SECONDS

$$\frac{150}{9.7} = \frac{x}{60}$$

$$150(60) = 9.7x$$

$$\frac{9000}{9.7} = \frac{9.7x}{9.7}$$

$$928 \approx x$$

SOLVE PROPORTION OR MULTIPLY ANSWER FROM 1 MINUTE BY 1.5

APPROXIMATELY 928 ft in 1 min.

APPROXIMATELY 1,392 ft in 1 1/2 min