

Math 6 - Unit 2: Rates, Ratios & Proportions

Name: KEY

End of Unit Test REVIEW

Class Period: 1 2 3 4 Date: _____

Vocabulary

Define the following terms:

- 1) customary system The primary system of measurement in the U.S.
- 2) metric system A system of measurement that uses a base 10 model.
- 3) percent A number out of 100
- 4) proportion An equation of equivalent ratios

Problem Solving. Show your work!

5) The ratio of whale sharks to dolphins at the Georgia Aquarium is 3 to 4. Based on that information, what is the missing value in the table?

Whale Sharks	1	6	5	10
Dolphins	2	12	10	20

- 6) 14 is 20% of what number? $\frac{14}{W} = \frac{20}{100} \Rightarrow W = 80$ 14 is 20% of 80.
- 7) What is 40% of 400? $\frac{P}{400} = \frac{40}{100} \Rightarrow P = 160$ 160 is 40% of 400.
- 8) Which value of x will make these ratios equivalent? $\frac{12}{6} = \frac{x}{7} \Rightarrow x = 14$ x = 14
- 9) Kara pays \$49 for 7 tickets to her middle school's musical. Write her ratio as a unit rate. $\frac{7}{49} = \frac{1}{7}$ \$7 per ticket.
- 10) Jessica drove 288 miles in 4 hours. Oscar drove 189 miles in 3 hours. Who drove at the faster rate of speed? $4 \overline{) 288} = 72 \text{ mph}$, $3 \overline{) 189} = 63 \text{ mph}$ Jessica
- 11) Pascal the Lizard is 6 feet long. Louie the Lizard is 60 inches long. How much longer is Pascal than Louie? (1 foot = 12 inches) $6 \text{ ft} = 72 \text{ inches}$, $72 - 60 = 12$ 12 inches longer
- 12) The table below shows the number of each item sold at the concession stand. Which of the following represents a 2:1 ratio?

Item	Popcorn	Nachos	Hot Dog	Candy Bar
Quantity Sold	12	15	30	10

- 13) The ratio of cats to dogs at the pound is 2 to 5. If there are 36 cats at the pound, how many dogs are there? $\frac{2}{5} = \frac{36}{x} \Rightarrow x = 90$ x = 90 dogs
- 14) The ratio of boys to girls in a class is 4:5. If there are 36 total kids in the class, how many boys are in the class? $\frac{4}{9} = \frac{x}{36} \Rightarrow x = 16$ x = 16 boys
- 15) In a Mexican restaurant, 25% of the guests are eating a burrito. If 60 people are eating a burrito, how many total people are at the restaurant? $\frac{60}{W} = \frac{25}{100} \Rightarrow W = 240$ W = 240 people
- 16) Donovan went out to dinner with his friends and had great service. He wanted to leave a 20% tip on his \$59 bill. How much money will he leave as a tip? $59 \times .20 = 11.80$ \$11.80

17) The prices of 3 different bottles of shampoo are given in the table. Which size bottle is the cheapest, according to the price per ounce?

$$\begin{array}{r} .20 \\ 5 \overline{) 1.00} \\ \underline{10} \\ 00 \\ \underline{0} \\ 0 \end{array}$$

Size	Price	Price per 1 ounce
25 ounces	\$5.25	.21
15 ounces	\$2.40	.16
5 ounces	\$1.00	.20

$$\begin{array}{r} .21 \\ 25 \overline{) 5.25} \\ \underline{50} \\ 25 \\ \underline{25} \\ 0 \end{array}$$

$$\begin{array}{r} .16 \\ 15 \overline{) 2.40} \\ \underline{15} \\ 90 \end{array}$$

18) The weight of an elephant is 13 kg. How many grams does the elephant weigh? (1 kg = 1000 g)

13,000 g

$$\begin{array}{r} 13 \text{ kg} \\ \times 9 \\ \hline 117 \text{ kg} \\ \times 1000 \text{ g} \\ \hline 117,000 \text{ g} \end{array}$$

19) Seventy liters of fruit punch were served at a party. How many kiloliters were served? (1000 L = 1 kL)

.07 kL

$$\begin{array}{r} 1000 \text{ L} \\ \times 70 \\ \hline 70,000 \text{ L} \\ \div 1000 \\ \hline 70 \text{ kL} \end{array}$$

20) If 1 Ton is equal to 2,000 pounds, how many Tons are equal to 14,000 pounds?

7 Tons

$$\begin{array}{r} 1 \text{ T} \\ \times 2000 \text{ lbs} \\ \hline 2000 \text{ lbs} \\ \times 7 \\ \hline 14,000 \text{ lbs} \end{array}$$

$$\begin{array}{r} 14,000 \\ \div 2000 \\ \hline 7 \end{array}$$

21) The table shows survey results of the favorite desserts of 6th graders. What is the simplified ratio of those who selected ice cream and cake to total?

Dessert	Ice Cream	Cookies	Cake	Pie	Brownies	Other
# Votes	15	13	5	2	8	7

$$15 + 5 = 20$$

$$20 : 50 = 2 : 5$$

all sixth graders surveyed

Constructed Response

22) Silly Sally has struck again! Please analyze her work below and answer the questions.

<p><u>What is 30% of 60?</u></p> <p><i>Silly Sally's Work:</i></p> <p>What is 30% of 60?</p> $\frac{60}{100} = \frac{30}{W}$ $\frac{600}{30} = \frac{30W}{30}$ <p>W = 20</p> <p><u>200 is 30% of 60.</u></p>	<p>a. <u>What did Silly Sally do WRONG?</u></p> <p>She made 60 the part instead of the whole.</p> <p>She put 60 in the wrong place in the percent proportion.</p>	<p>b. <u>Solve the problem correctly:</u></p> $\frac{P}{60} = \frac{30}{100}$ $\frac{P}{60} = \frac{3}{10}$ <p>P = 18</p> <p><u>18 is 30% of 60.</u></p>
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