

Chapter Review

Find each unit rate. Round to the nearest hundredth if necessary.

1. 50 miles in 2 hours

$$\frac{50}{2} = \frac{25}{1}$$

2. 21 laps in 7 minutes

$$\frac{21}{7} = \frac{3}{1}$$

3. \$10.50 for 3 pounds

$$\frac{10.50}{3} = \frac{3.50}{1}$$

4. Find the value of x in the pair of similar figures.

$$\frac{w}{L} = \frac{5}{10} = \frac{1}{2}$$

$$\frac{w}{L} = \frac{1}{2} = \frac{10}{20}$$

$$\frac{5}{10} = \frac{w}{20}$$

$$\frac{L}{w} = \frac{10}{20} = \frac{w}{5} = \frac{5}{w} = 10$$

4. $x = 10m$

Solve each proportion.

$$\frac{p}{7} = \frac{8}{28}$$

$$\frac{7(p)}{28} = \frac{28(p)}{28}$$

$$\frac{13}{26} = \frac{39}{r}$$

$$2 = p$$

$$\frac{2}{3} = \frac{n}{15}$$

$$4 \times 6 = 24$$

$$\frac{4}{x} = \frac{24}{42}$$

$$7 \times 6 = 42$$

9. **JOBS** Miley earns \$10 per hour babysitting. Is the amount of money earned proportional to the number of hours she spends babysitting?

9. YES, PROPORTIONAL

10. **FOOD** Pizzas are \$10 each plus a \$2 delivery fee. Is the cost proportional to the number of pizzas ordered?

10. NOT PROPORTIONAL

Pizzas	1	2	5	10
Cost \$	\$12	\$22	\$52	\$102

$\frac{12}{1} \neq \frac{22}{2} \neq \frac{52}{5} \neq \frac{102}{10}$
 $\frac{12}{1} = 12$, $\frac{22}{2} = 11$, $\frac{52}{5} = 10.4$, $\frac{102}{10} = 10.2$

Hours	1	2	5	10
Earns \$	10	20	50	100

$\frac{10}{1} = \frac{20}{2} = \frac{50}{5} = \frac{100}{10} = 10$

Chapter Review

Find each unit rate. Round to the nearest hundredth if necessary.

- 325 meters in 28 seconds $\frac{325}{28}$
- 128 pounds of dog food for 16 dogs $\frac{128}{16}$
- The costs of different sizes of bottled sport drink are shown. Which bottle costs the least per ounce?

Size	8 oz	16 oz	24 oz	32 oz
Price	\$0.89	\$1.09	\$1.89	\$2.39

Simplify. COMPLEX FRACTIONS

- $\frac{\frac{3}{4}}{\frac{2}{7}} \rightarrow \frac{3}{4} \div \frac{2}{7} = \frac{3}{4} \cdot \frac{7}{2} = \frac{3 \cdot 7}{4 \cdot 2} = \frac{21}{8}$
- $\frac{\frac{6}{1}}{\frac{2}{3}} = \frac{6}{1} \div \frac{2}{3} = \frac{6}{1} \cdot \frac{3}{2} = \frac{6 \cdot 3}{1 \cdot 2} = \frac{18}{2} = 9$
- $\frac{\frac{4}{1}}{\frac{1}{5}} = \frac{4}{1} \div \frac{1}{5} = \frac{4}{1} \cdot \frac{5}{1} = \frac{4 \cdot 5}{1 \cdot 1} = \frac{20}{1} = 20$

- DRIVE** Rupert drove home at an average rate of 58 miles per hour. Find his rate in feet per second. Round to the nearest tenth.

Determine if the situations represent proportional relationships. Then explain your reasoning.

- JOBS** The table shows the amount Maggie earns each hour she babysits.

Earnings (\$)	12	18	24
Time (h)	2	3	4

$$\frac{12}{2} = \frac{6}{1} \quad \frac{18}{3} = \frac{6}{1}$$

UNIT RATE

- YES, PROPORTIONAL
\$6 PER HOUR

- SHAMPOO** The table shows the cost of shampoo at a discount store.

Cost (\$)	2.95	4.50	6.05
Number of Bottles	1	2	3

$$\frac{2.95}{1} \quad \frac{4.50}{2} = \frac{2.25}{1}$$

UNIT RATE

- NOT PROPORTIONAL
 $2.95 \neq 2.25$

- Myra can fill 18 glasses with 2 containers of iced tea. How many glasses can she fill with 3 containers of tea?

$$\frac{18}{2} = \frac{?}{3}$$

$$\frac{18}{2} = \frac{9}{1} \quad \frac{9}{1} \times \frac{3}{3} = \frac{27}{3}$$

UNIT RATE

10.

YOU CAN FILL 27 GLASSES WITH 3 CONTAINERS OF TEA

$$\begin{array}{r} 5 \\ 4 \\ 28 \overline{) 325} \\ \underline{28} \\ 45 \\ \underline{28} \\ 170 \\ \underline{168} \\ 200 \\ \underline{196} \\ 4 \end{array}$$

11.61 METERS PER SECOND

8 lbs of food per dog

- THE 16oz SODA IS THE LEAST EXPENSIVE

$$\frac{0.89}{8} = 0.111 \quad \frac{1.09}{16} = 0.068 \quad \frac{1.89}{24} = 0.078 \quad \frac{2.39}{32} = 0.074$$

\$0.11 per oz. \$0.07 per oz. \$0.08 per oz. \$0.07 oz.

- $\frac{3}{8}$

- 9

- 20

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