

Topic 10 A Practice Test

- 1 Three books weigh 2.5 pounds. How many pounds do 12 books weigh?

$$\frac{3 \text{ books}}{2.5 \text{ lb}} = \frac{12 \text{ books}}{10 \text{ lb}}$$

x4

- 2 Sounds travels 3,835 miles in five hours. How far can sound travel in 2 hours?

$$\frac{3,835 \text{ mi}}{5 \text{ hrs}} = \frac{767 \text{ mi}}{1 \text{ hr}} = \frac{1,534 \text{ miles}}{2 \text{ hrs}}$$

x2

- 3 A snail travels 3 inches in 20 minutes. Which of the following proportions can be used to find x, the number of inches the snail can go in 60 minutes?

A $\frac{3 \text{ inches}}{x \text{ inches}} = \frac{20 \text{ minutes}}{60 \text{ minutes}}$

B $\frac{3 \text{ inches}}{20 \text{ min.}} = \frac{x \text{ inches}}{60 \text{ min.}}$

C $\frac{3 \text{ inches}}{20 \text{ min.}} = \frac{60 \text{ minutes}}{x \text{ inches}}$

$$\frac{3 \text{ in}}{20 \text{ min}} = \frac{x \text{ in}}{60 \text{ min}}$$

- 4 Find each unit rate and determine which is greater.

32 miles walked in 16 hours or
35 miles walked in 20 hours

$$\frac{32 \text{ miles}}{16 \text{ hrs}} = \frac{2 \text{ miles}}{1 \text{ hr}}$$

÷16

$$\frac{35 \text{ miles}}{20 \text{ hrs}} = \frac{1.75 \text{ mile}}{1 \text{ hr}}$$

÷20

- 5 One white rhino traveled 632 miles in 18 days. Write this amount as a rate and a unit rate to the nearest mile.

One ~~Siberian tiger~~ traveled 620 miles in 22 days in search of food. Write this amount as a unit rate to the nearest mile. (10-1)

$$\frac{632 \text{ mi}}{18 \text{ days}} = \frac{35.1}{1 \text{ day}} = \frac{35 \text{ miles}}{1 \text{ day}}$$

- 6 Alivia can buy 12 candy bars for \$8.79 or 18 candy bars for \$13.32. Which is the better buy?

$$\frac{\$8.79}{12 \text{ bars}} = \frac{0.7325}{1 \text{ bar}} = \frac{\$.73}{1 \text{ bar}}$$

better buy

- 7 Ali earned \$26 babysitting for 5 hours. What is a unit rate for this situation?

$$\frac{\$26}{5 \text{ hrs}} = \frac{\$5.20}{1 \text{ hrs}}$$

- 8 Hope is buying a lot of M&Ms! Which is the better buy?

10 pounds for \$12.50 or
\$14.40 for 12 pounds?

$$\frac{\$12.50}{10 \text{ lb}} = \frac{\$1.25}{1 \text{ lb}}$$

$$\frac{\$14.40}{12 \text{ lb}} = \frac{\$1.20}{1 \text{ lb}}$$

Better Buy

6 $\frac{\$13.32}{18 \text{ bars}} = \frac{\$.74}{1 \text{ bar}}$

9

The table show the results of Nick's bicycling one week. Nick rode at the same speed each day. Enter the number of miles he rode each day.

Day	Miles	Time (hours)
Monday	15	1
Tuesday	22.5	1.5
Thursday	7.5	0.5
Friday	30	2

*Hint: Use the three column unit rate structure.

Rate Unit Rate New Rate

$$\text{FRIDAY} \quad \frac{30 \text{ mi}}{2 \text{ hrs}} = \frac{15 \text{ mi}}{1 \text{ hr}}$$

Mon: use the unit rate from Friday.

$$\text{Tues:} \quad \frac{15 \text{ mi}}{1 \text{ hr}} \times 1.5 = \frac{22.5 \text{ mi}}{1.5 \text{ hrs}}$$

$$\text{Thurs:} \quad \frac{15 \text{ mi}}{1 \text{ hr}} \times 0.5 = \frac{7.5 \text{ mi}}{0.5 \text{ h.}}$$

- 10 Write the following as a rate and a unit rate. Round your answer to the nearest calorie.

160 calories in 3 oreos

$$\frac{160 \text{ cal}}{3 \text{ oreos}} = \frac{53.\bar{3}}{1 \text{ oreo}} = \frac{53 \text{ calories}}{1 \text{ oreo}}$$

- 11 Find EACH unit rate. Which is greater?

$$162 \text{ miles in 3 hours or } \frac{162 \text{ mi}}{3 \text{ hrs}} = \frac{54 \text{ mi}}{1 \text{ hr}}$$

$$320 \text{ miles in 5 hours?}$$

$$\text{greater} \rightarrow \frac{320 \text{ mi}}{5 \text{ hrs}} = \frac{64 \text{ mi}}{1 \text{ hr.}}$$

- 12 Jadon can run 30 meters in 5 seconds.

Andre can run 48 meters in 8 seconds.

Andre says he is faster. Do you agree or disagree with him?

Justify (explain) your answer.

$$\text{Jadon } \frac{30 \text{ m}}{5 \text{ s}} = \frac{6 \text{ m}}{1 \text{ sec}} \quad \text{Andre } \frac{48 \text{ m}}{8 \text{ s}} = \frac{6 \text{ m}}{1 \text{ s}}$$

They are the same. Andre is wrong.

- 13 Find the UNIT rate.

$$\frac{120 \text{ snacks}}{30 \text{ students}} = \frac{4 \text{ snacks}}{1 \text{ student}}$$

- 14 Which is the better buy? Use proportion skeletons to show your work.

A) 2 cans of soup for \$3.36

B) 3 cans of soup for \$4.50

$$\frac{\$3.36}{2 \text{ cans}} = \frac{\$1.68}{1 \text{ can}}$$

$$\frac{\$4.50}{3 \text{ cans}} = \frac{\$1.50}{1 \text{ can}}$$