

Name _____

Practice
Chapter 5 Test (5.1-5.4)

1. A class has 12 girls and 17 boys. Write this as a ratio 3 different ways.

12 to 17

12:17

$\frac{12}{17}$

Write the ratio as a fraction in simplest form.

2. 48 worksheets : 12 students

$\frac{48}{12}$

$\frac{4}{1}$ worksheets
students

3. 35 frogs to 21 lizards

$\frac{35}{21}$

$\frac{5}{3}$ frogs
lizards

Find the unit rate. (Include units!)

4. 405 rotations in 5 minutes

$\frac{405}{5}$

$\frac{81 \text{ rotations}}{1 \text{ minute}}$

4. cost per box

Boxes	3	6	9
Cost	\$3.60	\$7.20	\$10.80

$\frac{\$3.60}{3}$

$\frac{\$1.20}{1 \text{ box}}$

Tell whether the ratios form a proportion. You must show your work for credit.

5. $\frac{8}{24}, \frac{5}{15}$ $\frac{120}{120}$ yes

6. $\frac{56}{20}, \frac{24}{10}$ $\frac{560}{400}$ No

$\frac{1}{3} = \frac{1}{3}$ yes

$\frac{14}{5} \neq \frac{12}{5}$ No

7. The table shows the rates for sending test messages. Are the rates proportional? You must show work for credit.

Messages	Cost
50	\$6
75	\$9
100	\$12

$\frac{\$6}{50} = \frac{\$0.12}{1 \text{ m}}$
 $\frac{\$9}{75} = \frac{\$0.12}{1 \text{ m}}$
 $\frac{\$12}{100} = \frac{\$0.12}{1 \text{ m}}$

Yes all rates are the same

8. Use the table to write a proportion.

	Tank A	Tank B
Fish	6	f
Gallons	10	55

$$\frac{6}{10} = \frac{f}{55}$$

$$\text{OR } \frac{10}{6} = \frac{55}{f}$$

9. You can buy 5 pounds of grapes for \$9.95.
Write a proportion that gives the cost c if you buy 4 pounds of grapes.

$$\frac{\$9.95}{5} = \frac{c}{4}$$

Solve the proportion.

10. $\frac{2}{3} = \frac{n}{12}$

$$n = 8$$

11. $\frac{k}{6} = \frac{15}{18}$

$$k = 5$$

12. $\frac{w}{84} = \frac{5}{7}$

$$w = 60$$

13. $\frac{8}{25} = \frac{3}{d}$

$$\frac{8d}{8} = \frac{75}{8}$$

$$d = 9.375$$

14. $\frac{5x}{6} = \frac{67.5}{27}$

$$6(67.5) = 27(5x)$$

$$\frac{405}{135} = \frac{135x}{135}$$

$$x = 3$$

15. $\frac{16}{10} = \frac{n+2}{5}$

$$5(16) = 10(n+2)$$

$$80 = 10n + 20$$

$$\begin{array}{r} 80 \\ -20 \\ \hline 60 \end{array} = \begin{array}{r} 10n + 20 \\ -20 \\ \hline 10n \end{array}$$

$$\frac{60}{10} = \frac{10n}{10}$$

$$6 = n$$

16. Write and solve a proportion to find how many points a student needs to score on a test worth 150 points if they want a 96%.

$$\frac{x}{150} = \frac{96}{100}$$

$$\frac{100x}{100} = \frac{14400}{100}$$

144 points

17. In an animal shelter, the ratio of dogs to cats is 5 to 3. There are 25 dogs. Write and solve a proportion to find the number c of cats.

d/c

$$\frac{5}{3} = \frac{25}{c}$$

$$\frac{5c}{5} = \frac{75}{5}$$

15 cats

18. You can buy 5 stickers for \$3.00. How much does it cost to buy 12 stickers?

$\frac{\$}{\text{stickers}}$

$$\frac{3}{5} = \frac{x}{12}$$

$$\frac{5}{5}x = \frac{36}{5}$$

\$7.20

or unit rate

$$\frac{\$3}{5} = \$0.60 \text{ per sticker}$$

$$12 \times 0.6 =$$

\$7.20

19. It costs \$145 for 10 people to attend a concert. How much does it cost a group of 8 people?

$\frac{\$}{\text{people}}$

$$\frac{\$145}{10} = \frac{x}{8}$$

$$\frac{10}{10}x = \frac{1160}{10}$$

\$116.00

OR

$$\frac{\$145}{10} = \$14.50 \text{ per person}$$

$$8 \times 14.50 = \$116.00$$