

Extra Practice

5A Numerical Proportions

LESSON 5-1

One day, a veterinarian saw 20 cats and 30 dogs. Write each ratio in all three forms.

- cats to dogs
- dogs to cats
- cats to animals

Find the unit rates, and write them in both fraction and word form.

- 12 gallons in 4 minutes
- 28 inches in 7 hours
- 10 c water to 4 c rice
- A compact car gets 135 miles per 5 gallons of gas. A midsize car gets 210 miles per 10 gallons of gas. Which car gets better gas mileage?

LESSON 5-2

Determine whether the ratios are proportional.

- $\frac{25}{40}, \frac{30}{48}$
- $\frac{32}{36}, \frac{24}{28}$
- $\frac{5}{6}, \frac{15}{18}$
- $\frac{21}{49}, \frac{18}{42}$
- $\frac{72}{81}, \frac{16}{27}$
- $\frac{12}{18}, \frac{18}{27}$
- $\frac{7}{3}, \frac{14}{5}$
- $\frac{15}{20}, \frac{27}{36}$

Find a ratio equivalent to each ratio. Then use the ratios to write a proportion.

- $\frac{8}{12}$
- $\frac{15}{40}$
- $\frac{24}{32}$
- $\frac{35}{36}$
- $\frac{72}{81}$
- $\frac{8}{24}$
- $\frac{7}{16}$
- $\frac{5}{13}$

LESSON 5-3

Use cross products to solve each proportion.

- $\frac{8}{n} = \frac{12}{18}$
- $\frac{4}{7} = \frac{p}{28}$
- $\frac{u}{14} = -\frac{21}{28}$
- $\frac{3}{21} = \frac{t}{49}$
- $\frac{y}{35} = \frac{63}{45}$
- $-\frac{6}{n} = -\frac{48}{12}$
- $\frac{32}{x} = \frac{52}{117}$
- $\frac{56}{80} = \frac{105}{m}$

- The ratio of a person's weight on Earth to his weight on the Moon is 6 to 1. If Rafael weighs 90 pounds on Earth, how much would he weigh on the Moon?

LESSON 5-4

Use a unit conversion factor to convert the units.

- 16 quarts to gallons
- 3 hours to minutes
- 6 quarts to cups
- 6 feet to inches
- 3 tons to pounds
- 120 ounces to pounds
- Convert 88 feet per second into miles per hour.
- Convert 64 fluid ounces per day into gallons per week.
- A CD that is played from beginning to end plays for 42 minutes and 34 seconds. How many hours, to the nearest tenth, does the CD play?