

## 6-1

**Practice****Proportions**

- 1. NUTRITION** One ounce of cheddar cheese contains 9 grams of fat. Six of the grams of fat are saturated fats. Find the ratio of saturated fats to total fat in an ounce of cheese.
- 2. FARMING** The ratio of goats to sheep at a university research farm is 4:7. The number of sheep at the farm is 28. What is the number of goats?
- 3. ART** Edward Hopper's oil on canvas painting *Nighthawks* has a length of 60 inches and a width of 30 inches. A print of the original has a length of 2.5 inches. What is the width of the print?

Solve each proportion.

4.  $\frac{5}{8} = \frac{x}{12}$

5.  $\frac{x}{1.12} = \frac{1}{5}$

6.  $\frac{6x}{27} = \frac{4}{3}$

7.  $\frac{x+2}{3} = \frac{8}{9}$

8.  $\frac{3x-5}{4} = \frac{-5}{7}$

9.  $\frac{x-2}{4} = \frac{x+4}{2}$

Find the measures of the sides of each triangle.

- 10.** The ratio of the measures of the sides of a triangle is 3:4:6, and its perimeter is 104 feet.

- 12.** The ratio of the measures of the sides of a triangle is 6:7:9, and its perimeter is 77 centimeters.

Find the measures of the angles in each triangle.

- 13.** The ratio of the measures of the angles is 4:5:6.

- 14.** The ratio of the measures of the angles is 5:7:8.

- 15. BRIDGES** The span of the Benjamin Franklin suspension bridge in Philadelphia, Pennsylvania, is 1750 feet. A model of the bridge has a span of 42 inches. What is the ratio of the span of the model to the span of the actual Benjamin Franklin Bridge?

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6-1 Skills Practice

Proportions

NAME \_\_\_\_\_ DATE \_\_\_\_\_ PERIOD \_\_\_\_\_

- FOOTBALL** A tight end scored 6 touchdowns in 14 games. Find the ratio of touchdowns per game.  
**0.43:1**
  - EDUCATION** In a schedule of 6 classes, Marra has 2 elective classes. What is the ratio of elective to non-elective classes in Marra's schedule?  
**1:2**
  - BIOLOGY** Out of 274 listed species of birds in the United States, 78 species made the endangered list. Find the ratio of endangered species of birds to listed species in the United States.  
 **$\frac{39}{137}$**
  - ART** An artist in Portland, Oregon, makes bronze sculptures of dogs. The ratio of the height of a sculpture to the actual height of the dog is 2:3. If the height of the sculpture is 14 inches, find the height of the dog.  
**21 in.**
  - SCHOOL** The ratio of male students to female students in the drama club at Campbell High School is 3:4. If the number of male students in the club is 18, what is the number of female students?  
**24**
- Solve each proportion.**
- |                                  |            |                                   |            |                                    |           |
|----------------------------------|------------|-----------------------------------|------------|------------------------------------|-----------|
| 6. $\frac{2}{5} = \frac{x}{40}$  | <b>16</b>  | 7. $\frac{7}{10} = \frac{21}{x}$  | <b>30</b>  | 8. $\frac{20}{5} = \frac{4x}{6}$   | <b>6</b>  |
| 9. $\frac{3x}{4} = \frac{36}{8}$ | <b>3.5</b> | 10. $\frac{x+1}{3} = \frac{7}{2}$ | <b>9.5</b> | 11. $\frac{15}{3} = \frac{x-3}{5}$ | <b>28</b> |
- Find the measures of the sides of each triangle.**
- The ratio of the measures of the sides of a triangle is 3:5:7, and its perimeter is 450 centimeters.  
**90 cm, 150 cm, 210 cm**
  - The ratio of the measures of the sides of a triangle is 5:6:9, and its perimeter is 220 meters.  
**55 m, 66 m, 99 m**
  - The ratio of the measures of the sides of a triangle is 4:6:8, and its perimeter is 126 feet.  
**28 ft, 42 ft, 56 ft**
  - The ratio of the measures of the sides of a triangle is 5:7:8, and its perimeter is 40 inches.  
**10 in., 14 in., 16 in.**

6-1 Practice (Average)

Proportions

NAME \_\_\_\_\_ DATE \_\_\_\_\_ PERIOD \_\_\_\_\_

- NUTRITION** One ounce of cheddar cheese contains 9 grams of fat. Six of the grams of fat are saturated fats. Find the ratio of saturated fats to total fat in an ounce of cheese.  
**2:3**
  - FARMING** The ratio of goats to sheep at a university research farm is 4:7. The number of sheep at the farm is 28. What is the number of goats?  
**16**
  - ART** Edward Hopper's oil on canvas painting *Nighthawks* has a length of 60 inches and a width of 30 inches. A print of the original has a length of 2.5 inches. What is the width of the print?  
**1.25 in.**
- Solve each proportion.**
- |                                  |                                 |                                    |                                 |                                    |            |
|----------------------------------|---------------------------------|------------------------------------|---------------------------------|------------------------------------|------------|
| 4. $\frac{5}{8} = \frac{x}{12}$  | <b>7.5</b>                      | 5. $\frac{x}{1.12} = \frac{1}{5}$  | <b>0.224</b>                    | 6. $\frac{6x}{27} = \frac{4}{3}$   | <b>6</b>   |
| 7. $\frac{x+2}{3} = \frac{8}{9}$ | <b><math>\frac{2}{3}</math></b> | 8. $\frac{3x-5}{4} = \frac{-5}{7}$ | <b><math>\frac{5}{7}</math></b> | 9. $\frac{x-2}{4} = \frac{x+4}{2}$ | <b>-10</b> |
- Find the measures of the sides of each triangle.**
- The ratio of the measures of the sides of a triangle is 3:4:6, and its perimeter is 104 feet.  
**24 ft, 32 ft, 48 ft**
  - The ratio of the measures of the sides of a triangle is 7:9:12, and its perimeter is 84 inches.  
**21 in., 27 in., 36 in.**
  - The ratio of the measures of the sides of a triangle is 6:7:9, and its perimeter is 77 centimeters.  
**21 cm, 24.5 cm, 31.5 cm**
- Find the measures of the angles in each triangle.**
- The ratio of the measures of the angles is 4:5:6.  
**48, 60, 72**
  - The ratio of the measures of the angles is 5:7:8.  
**45, 63, 72**
- BRIDGES** The span of the Benjamin Franklin suspension bridge in Philadelphia, Pennsylvania, is 1750 feet. A model of the bridge has a span of 42 inches. What is the ratio of the span of the model to the span of the actual Benjamin Franklin Bridge?  
 **$\frac{1}{500}$**

Lesson 6-1

Answers (Lesson 6-1)

Answers