

Section 6.1

Write each of the following comparisons as a ratio in the form of a fraction.

1. 12 cookies per box 2. 45¢ for each donut 3. \$7.00 for every
10 cards

Write each ratio in fractional form and simplify it completely.

4. 72 dollars : 9 shares 5. 0.6 calories : 1.5 grams

Section 6.2

Simplify each rate to a unit rate, and write the unit rate in words.

6. $\frac{48 \text{ golf balls}}{12 \text{ players}}$ 7. $\frac{171 \text{ students}}{15 \text{ tutors}}$
8. $\frac{354 \text{ phone calls}}{30 \text{ days}}$ 9. $\frac{103.6 \text{ miles}}{5.6 \text{ gallons}}$

From the given information, write a fractional rate. Simplify the rate as a unit rate, and write it as a phrase.

10. In 15 games, Carmello scored a total of 339 points. Write his points scored as a unit rate per game.
11. Jenice paid \$114 to rent 25 chairs. Write the rental price as a unit rate per chair.

From the given information, simplify each rate to a unit price, write it as a phrase, and answer the question.

12. A 16 ounce jar of Redd's tomato paste costs \$1.92, and a 24 ounce jar of Green's tomato paste costs \$3.60. Which is the better buy?

Section 6.3

Solve for n in each proportion. If possible, first simplify the known fraction.

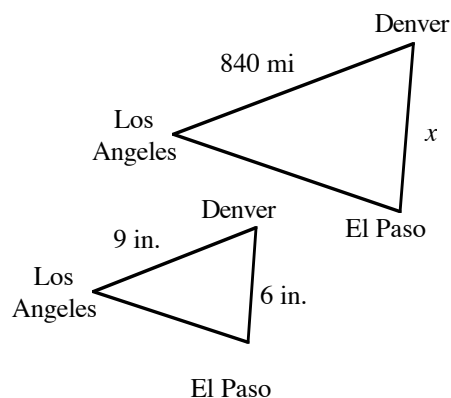
13. $\frac{9}{6} = \frac{n}{14}$ 14. $\frac{30}{25} = \frac{18}{n}$

For each of the following, set up a proportion table. Write a legend and solve the corresponding proportion. Write a sentence answering the question.

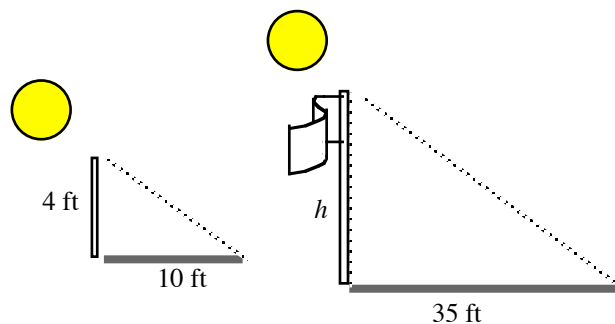
15. Tamra's printer can print 6 pages in 15 seconds. How many seconds will it take to print 22 pages?
16. To paint a wall, Lonnie charges \$6.00 for every 4 square feet of wall space. How much will Lonnie charge to paint 82 square feet of wall space?

For each pair of similar triangles, use a proportion table to set up and solve the corresponding proportion. Write a sentence answering the question.

17. Cory knows the distance between Denver and L. A. is 840 miles, and he wants to know the distance between Denver and El Paso, Texas. (See diagram at right →)
On a map the distance from L. A. to Denver is 9 inches, and the distance between Denver and El Paso is 6 inches. What is the real distance between Denver and El Paso?



18. A 4-foot post casts a 10-foot shadow. At the same time, a flag pole casts a 35-foot shadow. What is the height of the flag pole?



Section 6.4

Write each percent as a decimal.

19. 47% 20. 3% 21. 9.1% 22. 0.6%

Write each decimal as a percent.

23. 0.26 24. 0.02 25. 0.175
26. 0.7 27. 1.06 28. 0.005

Write each sentence with the fraction as a percent. Round the percentage to the nearest tenth.

29. $\frac{3}{20}$ of the Sri Lankan population is Hindu. *Source: The World Almanac, 2005*
30. $\frac{16}{25}$ of the shoppers at Lucia's Floristas pay with a credit card.
31. $\frac{7}{8}$ of the students in Ms. Skiba's art class received a passing grade.
32. $\frac{2}{7}$ of all US car sales are small cars. *Source: www.senate.michigan.gov*

For each, set up a proportion table, write a legend, set up and solve the proportion, and write a sentence answering the question.

33. 37.5% of the engineers at Hudson Dynamic have been with the company for at least ten years. If the company has a total of 32 engineers, how many have been at Hudson Dynamic for at least ten years?
34. 65% of the dinner customers at Chuck's Steakhouse order a salad with their meal. If 91 salads were served last Wednesday night, how many dinner customers were there in all?
35. In 2004, of the 160 National League batters who played regularly, 24 of them hit at least thirty home runs. What percent of these players hit at least thirty home runs?
Source: Sports Illustrated 2005 Almanac

Section 6.7

Solve each application. Write a sentence answering the question.

36. DuJuan is buying a pair of running shoes that costs \$80. The sales tax rate in his state is 7.5%. How much will he pay at the cash register?
37. Sandra is a real estate agent. She receives a 2% commission on every house she sells. One day, she sold a house for \$325,000. How much commission did she earn on the sale of that house?
38. Shay's Department Store had an after-Christmas clearance sale with decorations discounted 80%. The original price of a box of bulbs was \$24.50. What was the new price of the box of bulbs?
39. Connie treated her friend Marjorie to dinner one night and the total food bill came to \$48.75. Connie thought the service and the food were outstanding and decided to leave a 20% tip for the server. How much was the tip?