Practice and Problem Solving

Use equivalent ratios to solve the proportion.

8. $\dfrac{3}{7} = \dfrac{a}{21}$ **9.** $\dfrac{4}{36} = \dfrac{w}{9}$ **10.** $\dfrac{2}{s} = \dfrac{18}{45}$ **11.** $\dfrac{4}{c} = \dfrac{2}{10}$
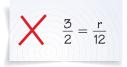
Algebra **Use algebra to solve the proportion.**

12. $\dfrac{h}{8} = \dfrac{3}{12}$ **13.** $\dfrac{k}{27} = \dfrac{4}{6}$ **14.** $\dfrac{6}{14} = \dfrac{m}{21}$ **15.** $\dfrac{20}{16} = \dfrac{n}{12}$

16. Find the Error To make orange food coloring, 2 drops of red are mixed with 3 drops of yellow. Describe and correct the error in the proportion used to find the number of drops r of red to add to 12 drops of yellow.

$$\times \quad \dfrac{3}{2} = \dfrac{r}{12}$$

17. Reading Phoebe can read about 1250 words in 5 minutes. About how many words can she read in 15 minutes?

18. Painting It takes 4 quarts of paint to cover 560 square feet. How many quarts of the same paint are needed to cover 140 square feet?

19. Apples The average American eats 57 pounds of apples over 3 years. At this rate, how many pounds of apples does a person eat in 15 years?

20. Critical Thinking Is it possible to write a proportion using $\dfrac{11}{13}$ and $\dfrac{55}{65}$? Explain your reasoning.

21. Dog Biscuits The table lists the flour needed to make dough for a given number of dog biscuits. Copy and complete the table.

Biscuits	32	48	?
Flour (cups)	2	?	5

In Exercises 22 and 23, write and then solve the proportion.

22. 8 is to 3 as w is to 12.

23. 6 is to 16 as z is to 40.

24. History The remains of the Viking ship *Ladby* were discovered in 1935. The ratio of the width to the length of the ship was 3 to 20. If the ship had a length of 70 feet, what was its width?

25. Population In the United States, 21 out of every 100 people are under the age of 15. In a town of 20,000 people, how many people would you expect to be under the age of 15?

Challenge Solve the proportion.

26. $\dfrac{30}{v} = \dfrac{12}{16}$ **27.** $\dfrac{8}{x} = \dfrac{6}{15}$ **28.** $\dfrac{22}{33} = \dfrac{16}{y}$ **29.** $\dfrac{4}{24} = \dfrac{6}{z}$

30. **Cruise Liner** A cruise liner moves 6 inches for every gallon of fuel that it burns. How many gallons of fuel will it burn if it travels 100 miles?

Mixed Review

Order the numbers from least to greatest. *(Lesson 4.7)*

31. $0.6, \dfrac{12}{5}, 0.\overline{6}, \dfrac{6}{7}, 0.1$ **32.** $0.5, \dfrac{5}{9}, \dfrac{9}{5}, 0.\overline{9}, 0.8$ **33.** $1.1, \dfrac{2}{5}, 0.15, 0.\overline{1}$

Draw the line that has the given slope and passes through the given point. *(Lesson 8.3)*

34. slope $= 4$; $(1, -4)$ **35.** slope $= \dfrac{1}{2}$; $(-1, 2)$ **36.** slope $= -2$; $(0, 3)$

Basic Skills Copy and complete the statement using <, >, or =.

37. $2.22 \times 10^{11} \underline{\ ?\ } 1.89 \times 10^{11}$ **38.** $623{,}000{,}000 \underline{\ ?\ } 6.23 \times 10^9$

Test-Taking Practice

39. **Extended Response** The ratio of teachers to students at a school is 2 to 23. The ratio of female students to the total number of students is 4 to 9. If there are 621 total students, find the number of teachers and the number of female students at the school. Explain your reasoning.

BRAIN GAME

Shape Association

Use the two true statements below to copy and complete the proportions at the right.