Practice

Choose a calculator, paper and pencil, or mental math. Determine whether each pair of ratios forms a proportion.

1. $\frac{8}{9}$, $\frac{4}{3}$ _____

2. $\frac{20}{16}$, $\frac{18}{15}$ _____

3. $\frac{18}{12}$, $\frac{21}{14}$ _____

4. $\frac{21}{27}$, $\frac{35}{45}$ _____

5. $\frac{18}{22}$, $\frac{45}{55}$ _____

6. $\frac{38}{52}$, $\frac{57}{80}$ _____

7. $\frac{10}{65}$, $\frac{18}{87}$ _____

8. $\frac{51}{48}$, $\frac{68}{64}$ _____

Find the value of each variable.

9. $\frac{4}{5} = \frac{x}{15}$ _____

10. $\frac{8}{m} = \frac{4}{15}$ _____

11. $\frac{39}{27} = \frac{26}{m}$ _____

12. $\frac{y}{5} = \frac{32}{20}$ _____

13. $\frac{14}{b} = \frac{8}{12}$ _____

14. $\frac{a}{18} = \frac{16}{24}$ _____

15. $\frac{d}{25} = \frac{12}{15}$ _____

16. $\frac{28}{42} = \frac{26}{x}$ _____

17. $\frac{16}{24} = \frac{y}{27}$ _____

18. $\frac{50}{8} = \frac{x}{25}$ _____

19. $\frac{9}{10} = \frac{c}{45}$ _____

20. $\frac{x}{90} = \frac{45}{50}$ _____

Solve each problem.

21. In the 1991-92 National Basketball Association Championship games, the Chicago Bulls won 2 games for each game that the Portland Trailblazers won. If Portland won 2 games, how many did Chicago win? _____
Source: World Almanac and Book of Facts

22. In 1915, there was one divorce for every 1,000 people in the United States. If a certain town had a population of 56,000 people, how many divorces would you have expected in that town? _____
Source: World Almanac and Book of Facts

23. For every 100 families with TV sets, about 12 families like *Star Trek, the Next Generation.* In a town of 23,400 families who all have TV sets, how many families would you expect to like *Star Trek, the Next Generation?* _____
Source: World Almanac and Book of Facts

24. In 1800, there were only about 6 people per square mile of land in the U.S. What was the approximate population in 1800 if there were about 364,700 square miles in the U.S.?
Source: Almanac and Book of Facts, Source listed there: Bureau of the Census

Practice

Choose a calculator, paper and pencil, or mental math.
Which pairs of ratios form a proportion?

1. $\frac{12}{16}, \frac{30}{40}$ _____

2. $\frac{8}{12}, \frac{15}{21}$ _____

3. $\frac{27}{21}, \frac{81}{56}$ _____

4. $\frac{45}{24}, \frac{75}{40}$ _____

5. $\frac{5}{9}, \frac{80}{117}$ _____

6. $\frac{15}{25}, \frac{75}{125}$ _____

Choose a calculator, paper and pencil, or mental math. Find the value of n in each proportion.

7. $\frac{n}{14} = \frac{20}{35}$ _____

8. $\frac{9}{6} = \frac{21}{n}$ _____

9. $\frac{24}{n} = \frac{16}{10}$ _____

10. $\frac{3}{4} = \frac{n}{10}$ _____

11. $\frac{n}{4} = \frac{17}{3}$ _____

12. $\frac{25}{n} = \frac{9}{8}$ _____

Choose A, B, or C.

13. A contractor estimates it will cost $2,400 to build a deck to a customer's specifications. Which proportion would help you find how much it would cost to build five similar decks? _____

    A. $\frac{1}{5} = \frac{n}{\$2,400}$

    B. $\frac{1}{\$2,400} = \frac{n}{5}$

    C. $\frac{1}{\$2,400} = \frac{5}{n}$

14. A recipe requires 3 c of flour to make 27 dinner rolls. Which of the proportions would help you find the flour needed to make 9 rolls? _____

    A. $\frac{3}{9} = \frac{n}{27}$

    B. $\frac{3}{27} = \frac{9}{n}$

    C. $\frac{27}{3} = \frac{9}{n}$

Choose a calculator, paper and pencil, or mental math.

15. Mandy runs 4 km in 18 min. She plans to run in a 15 km race. How long will it take her to complete the race?

    _____

16. Ken's new car can go 26 mi/gal of gas. The car's gasoline tank holds 14 gal. How far will he be able to go on a full tank?

    _____

17. Eleanor can complete two skirts in 15 days. How long will it take her to complete eight skirts?

    _____

18. Three eggs are required to make two dozen muffins. How many eggs are needed to make 12 dozen muffins?

    _____