Name _____ Class _____ Date _____

Practice 5-4

Proportions

Determine if the ratios in each pair are proportional.

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. $\frac{15}{25}, \frac{75}{125}$ _____
7. $\frac{2}{14}, \frac{20}{35}$ _____
8. $\frac{9}{6}, \frac{21}{14}$ _____
9. $\frac{24}{15}, \frac{16}{10}$ _____
10. $\frac{3}{4}, \frac{8}{10}$ _____
11. $\frac{20}{4}, \frac{17}{3}$ _____
12. $\frac{25}{6}, \frac{9}{8}$ _____

Decide if each pair of ratios is proportional.

13. $\frac{14}{10} \stackrel{?}{=} \frac{9}{7}$ _____
14. $\frac{18}{8} \stackrel{?}{=} \frac{36}{16}$ _____
15. $\frac{6}{10} \stackrel{?}{=} \frac{15}{25}$ _____
16. $\frac{7}{16} \stackrel{?}{=} \frac{4}{9}$ _____
17. $\frac{6}{4} \stackrel{?}{=} \frac{12}{8}$ _____
18. $\frac{19}{3} \stackrel{?}{=} \frac{114}{8}$ _____
19. $\frac{5}{14} \stackrel{?}{=} \frac{6}{15}$ _____
20. $\frac{6}{27} \stackrel{?}{=} \frac{8}{36}$ _____
21. $\frac{27}{15} \stackrel{?}{=} \frac{45}{25}$ _____
22. $\frac{3}{18} \stackrel{?}{=} \frac{4}{20}$ _____
23. $\frac{5}{2} \stackrel{?}{=} \frac{15}{6}$ _____
24. $\frac{20}{15} \stackrel{?}{=} \frac{4}{3}$ _____

Solve.

25. During the breaststroke competitions of the 1992 Olympics, Nelson Diebel swam 100 meters in 62 seconds, and Mike Bowerman swam 200 meters in 130 seconds. Are the rates proportional? _____

26. During a vacation, the Vasquez family traveled 174 miles in 3 hours on Monday, and 290 miles in 5 hours on Tuesday. Are the rates proportional? _____

Name _____ Class _____ Date _____

Practice 5-5

Using Proportional Reasoning

Use mental math to solve for each value of *n*.

1. $\frac{n}{14} = \frac{20}{35}$ _____
2. $\frac{9}{6} = \frac{21}{n}$ _____
3. $\frac{24}{n} = \frac{16}{10}$ _____
4. $\frac{3}{4} = \frac{n}{10}$ _____
5. $\frac{n}{4} = \frac{17}{3}$ _____
6. $\frac{25}{n} = \frac{9}{8}$ _____

Solve each proportion using cross products.

7. $\frac{k}{8} = \frac{14}{4}$ $k =$ _____
8. $\frac{u}{3} = \frac{10}{5}$ $u =$ _____
9. $\frac{14}{6} = \frac{d}{15}$ $d =$ _____
10. $\frac{5}{1} = \frac{m}{4}$ $m =$ _____
11. $\frac{36}{32} = \frac{n}{8}$ $n =$ _____
12. $\frac{5}{30} = \frac{1}{x}$ $x =$ _____
13. $\frac{t}{4} = \frac{5}{10}$ $t =$ _____
14. $\frac{9}{2} = \frac{v}{4}$ $v =$ _____
15. $\frac{x}{10} = \frac{6}{4}$ $x =$ _____
16. $\frac{8}{12} = \frac{2}{b}$ $b =$ _____
17. $\frac{v}{15} = \frac{4}{6}$ $v =$ _____
18. $\frac{3}{18} = \frac{2}{s}$ $s =$ _____

Solve.

19. A contractor estimates it will cost $2,400 to build a deck to a customer's specifications. How much would it cost to build five similar decks?

_____

20. A recipe requires 3 c of flour to make 27 dinner rolls. How much flour is needed to make 9 rolls?

_____

Solve using a calculator, paper and pencil, or mental math.

21. 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?

_____

22. Ken's new car can go 26 miles per gallon of gasoline. The car's gasoline tank holds 14 gal. How far will he be able to go on a full tank?

_____

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

_____

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

_____