Chapter 5: Diagnostic Test

Name_____

_____

The purpose of this test is to see how well you understand ratio and proportion. We recommend that you work this diagnostic test *before* your instructor tests you on this chapter. Allow yourself about 40 minutes to do this test.

Complete solutions for all the problems on this test, together with section references, are given in the Answer Section. You should study the sections referred to for the problems you do incorrectly.

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1. A college football team won 7 out of 10 games played. There were no tie games.
   (a) What is the ratio of wins to games played?   (1a)_____

   (b) What is the ratio of wins to losses?   (1b)_____

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2. Reduce the following ratios to lowest terms.

   (a) 15 to 18   (2a)_____

   (b) 12 cars to 8 families   (2b)_____

   (c) 9 inches to 2 feet   (2c)_____

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3. Do the given ratios form a proportion?

   (a) $\frac{21}{37}$, $\frac{13}{23}$ (3a)_____

   (b) $\frac{24}{54}$, $\frac{36}{81}$ (3b)_____

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4. Solve for the unknown letter.

   (a) $\frac{x}{12} = \frac{40}{60}$ (b) $\frac{24}{75} = \frac{P}{100}$

   (c) $\frac{3\frac{1}{2}}{B} = \frac{21}{40}$

   (4a)_____

   (4b)_____

   (4c)_____

5. If 5 pounds of oranges cost 84¢, what will $7\frac{1}{2}$ pounds cost?

(5) _____

6. If a 6-foot man casts a 4-foot shadow, find the height of a flagpole that casts an 18-foot shadow.

(6) _____

7. Henry's car used 2 quarts of oil on a 1,500-mile trip. How many quarts can he expect to use on a 6,000-mile trip?

(7) _____

8. A doctor's prescription calls for $\frac{1}{4}$ ounce of a particular ingredient for every 25 pounds of body weight. How many ounces of this ingredient would be needed by someone weighing 175 pounds?

(8) _____