Chapter 1 Test Review

Fill in the blank.

1. A(n) _____ is the comparison of two numbers by division.

2. If two figures have the same shape and size, then they are _____.

3. A statement that two ratios are equal is called a(n) _____.

Solve each proportion.

4. $\dfrac{8}{x} = \dfrac{2}{3}$

5. $\dfrac{n}{0.3} = \dfrac{9}{0.6}$

6. $\dfrac{5}{3} = \dfrac{11}{a}$

7. The *capture-recapture* method is used to find the number of turtles in a small stream. Forty-two turtles are captured. Their shells are marked with green paint. Then the turtles are released back into the stream. Later in the summer, 56 turtles are captured. Of those captured, 7 had green paint on their shells.
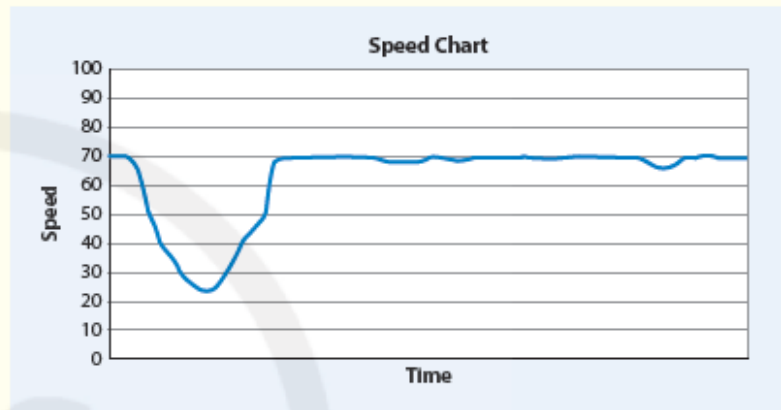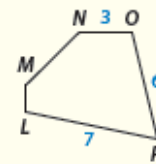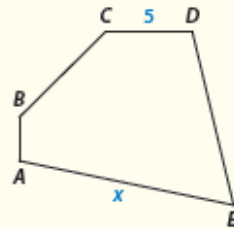
   a. Write a proportion that models this situation.
   b. About how many turtles are in the stream?

8. If 18 greeting cards cost $24.30, what is the cost of 12 cards?

9. The floor plan for an office building has a scale of $\frac{1}{8}$ in. = 1 ft. If the length of the main hallway measures 45 inches on the drawing, how long is the actual hallway?

10. The ratio of the corresponding sides of two similar triangles is 2 : 5. The sides of the smaller triangle are 6 mm, 8 mm, and 12 mm. What is the perimeter of the larger triangle?

11. A computer image-processing program can be used to change the size of a digital photograph. If a 4.0 cm × 5.5 cm photo is enlarged so that its length is 8.5 cm, what is its new width?

12. $ABCDE \sim LMNOP$

  a. What is the scale factor of $ABCDE$ to $LMNOP$?

  b. Find the value of x.

13. The graph below shows the average speed of vehicles on a freeway of a large city at specific times of day.

Speed Chart

Does the graph show times from 5:00 a.m. to 3:00 p.m. or from 10 a.m. to 8 p.m.? Explain.