Name:_____

Chapter 3.6 Applications

Write and solve an equation for each situation.

1. A passenger train's speed is 60 mi/h, and a freight train's speed is 40 mi/h. The passenger train travels the same distance in 1.5 h less time than the freight train. How long does each train take to make the trip?

2. The length of a rectangle is 4 in. greater than the width. The perimeter of the rectangle is 24 in. Find the dimensions of the rectangle.

3. The length of a rectangle is twice the width. The perimeter is 48 in. Find the dimensions of the rectangle.

4. At 10:00 A.M., a car leaves a house at a rate of 60 mi/h. At the same time, another car leaves the same house at a rate of 50 mi/h in the opposite direction. At what time will the cars be 330 miles apart?

5. Marla begins walking at 3 mi/h toward the library. Her friend meets her at the halfway point and drives her the rest of the way to the library. The distance to the library is 4 miles. How many hours did Marla walk?

6. Fred begins walking toward John's house at 3 mi/h. John leaves his house at the same time and walks toward Fred's house on the same path at a rate of 2 mi/h. How long will it be before they meet if the distance between the houses is 4 miles?

7. Find three consecutive integers whose sum is 126.

8. The sum of four consecutive odd integers is 216. Find the four integers.

9. A rectangular picture frame is to be 8 in. longer than it is wide. Dennis uses 84 in. of oak to frame the picture. What is the width of the frame?

10. Each of two congruent sides of an isosceles triangle is 8 in. less than twice the base. The perimeter of the triangle is 74 in. What is the length of the base?