

# Determining Speed and Velocity

**Speed** is a measure of how fast an object is moving. **Velocity** is a measure of how fast an object is traveling in a certain direction. An object can travel at a constant speed that does not change. However, if the direction in which it is traveling does, then its velocity has changed. To find the velocity of an object, use this formula.

$$\text{speed} = \frac{\text{distance}}{\text{time}}$$

$$\text{velocity} = \frac{\text{distance}}{\text{time}} \text{ in a specific direction}$$

1 Find the velocity of a truck that travels 75 miles north in 2.5 hours.

\_\_\_\_\_ kilometers per hour

2 Find the speed of a bicyclist who took an hour and a half to travel 10 kilometers.

\_\_\_\_\_ kilometers per hour

3 Find the velocity of a plane that traveled 3,000 miles west in 5 hours.

\_\_\_\_\_ miles per hour

4 Find the velocity of a car that took 7.5 hours to travel 491.25 miles due south.

\_\_\_\_\_ miles per hour

5 Find the average speed of a train that traveled 543 kilometers in 6 hours.

\_\_\_\_\_ kilometers per hour

6 Find the velocity of a train that traveled 420 miles northeast to northwest between two cities in 3.5 hours.

\_\_\_\_\_ miles per hour

7 A plane flies due west for 4 1/2 hours. It travels a total of 5,400 kilometers. What was its velocity?

\_\_\_\_\_ kilometers per hour

8 A cork floats a distance of 8 3/4 miles downriver after a period of 3 hours 30 minutes. What was its average speed?

\_\_\_\_\_ miles per hour