

Physics
Constant Velocity Problems

Name _____
Date _____

Directions: Identify each number given with a variable that stands for it. Use the information to solve for the desired quantity.

1. A caterpillar travels across the length of a 2.00-meter porch in 6.5 minutes. What is the average velocity of the caterpillar in m/s, assuming that is traveling west.

$$V_{ave} = \underline{\hspace{10em}}$$

2. A hiker is at the bottom of a canyon facing the canyon wall closest to her. The sound of her voice travels a 340 m/s at that location and the total distance the echo travels is 561 m. How long after she shouts will she hear her echo?

$$t = \underline{\hspace{10em}}$$

3. A motorist traveling on a straight stretch of open highway sets his cruise control at 90 km/hr. How far, in km, will he travel in 15 min?

$$x = \underline{\hspace{10em}}$$

4. A woman from Pasadena makes a trip to a nearby shopping mall that is located 40 miles from her home. On the trip to the mall she averages 80 mi/hr but gets a speeding ticket upon her arrival. On the return trip she averages just 40 mi/hr. What was her average speed for the entire trip?

$$V_{ave} = \underline{\hspace{10em}}$$

5. A cross-country race car driver sets out on a 100-mile race. At the halfway marker (50 miles), her pit crew radios that she has averaged only 50 mi/hr. How fast must she drive over the remaining distance in order to average 100 mi/hr for the entire trip?

$$v = \underline{\hspace{10em}}$$