

## Average Speed Problems

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1. Rob is running with a constant speed of 6 m/s. How long will it take him to run 100 meters?
  
2. The earth is about  $1.5 \times 10^{11}$  m away from the sun. What is the average speed (in m/s) of the earth as it orbits around the sun in it's (nearly) circular orbit?
  
3. You are standing at the edge of a large field. At the opposite end of the field is a huge building. You yell at the building, and hear an echo 2.5 seconds later. If the speed of sound is 340 m/s, how far away from the building are you?
  
4. Chuck is driving in his car on a nice sunny afternoon. He drives 20 miles in 1/2 hour, then drives another 30 miles in the next hour.
  - a. Make a graph of distance vs. time for Chuck's trip.
  - b. Make a graph of speed vs. time for the trip. (Make sure you calculate the speeds.)
  
  - c. What was Chuck's average speed for the entire trip?
  
5. Sharon walks 20 meters down a hall with a constant speed of 2 m/s. Then she walks backwards 20 meters down the hall, this time with a constant speed of 4 m/s.
  - a. What was her average speed for the whole trip?
  
  - b. What was her average velocity for the whole trip?
  
  - c. Make an appropriate position vs time graph for the motion.

Answers:      1) 16.7 s      2) 30,000 m/s      3) 425 m      4 c) 33.3 mph      5.a) 2.67 m/s      b) 0 m/s