

Worksheet 1.2
Average Velocity and Speed

1. A high school bus travels 240 km in 6.0 h. What is its average speed for the trip? (in km/h)

 2. A black widow spider chasing its mate (which it will eat) travels across a driveway 3.6 m wide with a speed of 14 cm/s. How long will it take to cross the driveway?

 3. Jay Umpshot, one of the many stars of the local basketball team, steals the ball and runs the length of the court in 8.5 sec at a speed of 5.0 m/s. How long is the court?

 4. The average speed of a runner in a 400.0 metre race is 9.0 m/s. How long did it take the runner to complete the race?

 5. If a car is traveling at 25 m/s, how far does it travel in 1.0 hour?

 6. A caterpillar travels across the length of a 2.00 m porch in 6.5 minutes. What is the average velocity of the caterpillar in m/s?

 7. A motorist traveling on a straight stretch of open highway sets his cruise control at 90.0 km/h. How far will he travel in 15 minutes?

 8. A motorcycle travels 90.0 km/h. How many seconds will it take the motorcycle to cover 2.10×10^3 m?
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9. A hiker is at the bottom of a canyon facing the canyon wall closest to her. She is 280.5 m from the wall and the sound of her voice travels at 340.0 m/s at that location. How long after she shouts will she hear her echo.
10. A woman from Pasadena makes a trip to a nearby shopping mall that is located 40.0 km from her home. On the trip to the mall she averages 80.0 km/h but gets a speeding ticket upon her arrival. On the return trip she averages just 40.0 km/h. What was her average speed for the entire trip?
11. A cross-country racecar driver sets out on a 100.0 km race. At the halfway marker (50 km), her pit crew radios that she has averaged only 80.0 km/h. How fast must she drive over the remaining distance in order to average 100.0 km/h for the entire race?
12. A supersonic jet travels once around the earth at an average speed of 1.6×10^3 km/h. Its orbital **radius** is 6.5×10^3 km. How many hours does the trip take?