Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Physics 11

**Worksheet 2.2**

**Speed and Velocity**

1. A high school bus travels a distance of 240 km in 6 h. What is its average speed for the trip?

1. A spider travels across a driveway that’s 3.6 m wide with a constant speed of 14 cm/s. How long will it take to cross the driveway?
2. 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 seconds at a constant speed of 5 m/s. How long is the court?

1. If a car is traveling at 25 m/s, how many km does it travel in 1 hour?
2. A caterpillar travels south across the length of a 2 m porch in 6.5 minutes. What is the average speed and average velocity of the caterpillar?

1. A motorist traveling on a straight stretch of open highway sets his cruise control at 90 km/h. How many kilometers will he travel in 15 minutes?

1. A motorcycle travels 90 km/h. How many seconds will it take the motorcycle to cover 2100 m?
2. A hiker is facing a rock wall. She is 280.5 m from the wall, and the sound of her voice travels at 340 m/s. How long after she shouts will she have to wait until she hears her echo?

1. A woman from Pasadena makes a trip to a nearby shopping mall that is located 40 km from her home. On the way there she averages 80 km/h. On the return trip she averages just 40 km/h. What was her average speed for the entire trip? What was her average velocity? Answer in km/h.
2. A cross-country rally car driver sets out on a 100 km race. At the halfway marker (50 km), she finds that she has been averaging only 80 km/h. How fast must she drive over the remaining distance in order to average 100 km/h for the entire race? Answer in km/h.

1. A supersonic jet travels once around the Earth at an average speed of 1600 km/h. If it flies at a distance (i.e. radius) of 6500 km from the centre of the Earth, how many hours does the trip take? You may need to look up the formula for circumference of a circle…

Answers: 1) 11.1 m/s 2) 25.7 s 3) 42.5 m 4) 90 km 5) 0.00513 m/s; 0.00513 m/s south

6) 22.5 km 7) 84 s 8) 1.65 s 9) speed: 53.3 km/h; velocity: 0 10) 133.3 km/h 11) 25.5 h