Name_____ Date_____ Period_____

Kinematics #1
Constant Speed

Let's continue practicing the idea of speed. While you may find it easy to solve these problems in your head, construct a model showing what is happening in the problem.Whether it be a picture, or a graph, the models should provide the reader with all of the necessary information to understand the problem without reading it.

1) Does a car speedometer measure speed, velocity, or both? Explain.

2) When an object moves with constant velocity, does its average velocity during any time interval differ from its instantaneous velocity at any instant? Explain.

3) What must your car's average speed be in order to travel 235 km in 2.75 h?

4) If you are driving 95 km/h along a straight road and you look to the side for 2.0 s, how far do you travel during this inattentive period?

5) You are driving home from school steadily at 95 km/h for 180 km. It then begins to rain and you slow to 65 km/h. You arrive home after driving 4.5 h.
    a) How far is your hometown from school?

    b) What was your average speed?

6) A horse trots away from its trainer in a straight line, moving 38m away in 9.0s. It then turns abruptly and gallops halfway back in 1.8 s. Calculate
    a) the horse's average speed

    b) the horse's average velocity for the entire trip, using "away from the trainer" as the positive direction.

7) Two locomotives approach each other on parallel tracks. Each has a speed of 155 km/h with respect to the ground. If they are initially 8.5 km apart, how long will it be before they reach each other?