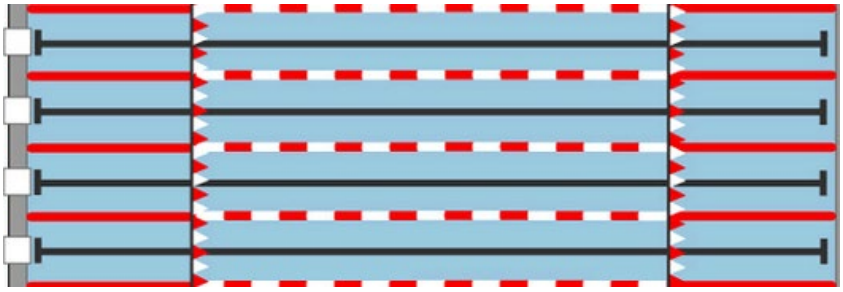
Student Name: _____ Date: _____

Period #: _____

Unit 1: Quiz 12

1-Dimensional Motion

1. A Park View swimmer swims the length of a 25-yard pool in 12 seconds and makes the return trip to the starting position in 14 seconds. Determine her average velocities in the following cases:



Equation for Average Velocity

$$Average\ Velocity = \frac{Displacement}{Elapsed\ Time}$$

$$\vec{V}_{avg} = \frac{\vec{x}_f - \vec{x}_i}{t_f - t_i}$$

a. The first half of the swim.

b. The second half of the swim.

c. The entire swim.

2. A car comes to a stop after uniformly decelerating at 3.5 $\frac{m}{s^2}$ for 7 s. What distance is traveled by the car during this time?

Note: Fill in the values x_i, x_f, v_i, v_f and a_{car} in the picture below before preceding:

Useful Kinematics equations when acceleration is constant:

$$x_f = x_i + v_i t + \frac{1}{2} a_{car} t^2$$

$$v_{f_x} = v_{i_x} + a_{car} t$$

$$v_{f_x}^2 = v_{i_x}^2 + 2a(x_f - x_i)$$