Name:_____   Date:_____

Mr. Croom's Physics   Chapter 2: One Dimensional Motion

Advanced Average Velocity

Solve the following problems

1. (Walker p. 47 #7) Joseph DeLoach of the United State set an Olympic record in 1988 for the 200-meter dash with a time of 19.75 seconds. What was his average speed in m/s?

2. (Walker p. 47 #8) In 1992, Zhuang Young of China set a women's Olympic record in the 100-meter freestyle swim with a time of 54.64 seconds. What was her average speed in m/s?

3. (Walker p. 47 #9) Kangaroos have been clocked at a speed of 65 km/h. How far can a kangaroo hop in 2 minutes at this speed?

4. (Walker p. 47 #10) A severe storm on January 10, 1992, caused a cargo ship near the Aleutian Islands to spill 20, 000 rubber ducks and other bath toys into the ocean. Ten months later hundreds of rubber ducks began to appear along the shoreline near Sitka, Alaska, roughly 1600 miles away.
   a. What was the approximate average speed in miles/hr of the ocean current that carried the ducks to shore?

   b. What is the answer to part a in m/s?

5. (Walker p. 47 #11) Radio waves travel at the speed of light, approximately 186,000 miles per second. How long does it take for a radio message to travel from the Earth to the Moon and back? The Earth is 238,855 miles from the moon.

6. (Walker p. 47 #16) You jog at 6.0 mi/hr for 5.0 mi., then you jump into a car and drive for another 5.0 mi. With what average speed must you drive if your average speed for the entire 10.0 mile trip is 11 mi / hr.

7. (Walker p. 47 #17) A dog runs back and forth between its two owners, who are walking toward one another. The dog start running when the owners are 10.0 m apart. If the dog runs with a speed of 3.0 m/s and the owners each walk with a speed of 1.3 m/s, how far had the dog traveled when the owners meet?

8. (Walker p. 47 #18) You drive in a straight line at 20.0 m/s for 10.0 minutes, then at 30.0 m/s for another 10.0 minutes. What is your average speed?