Name_____

Speed and Acceleration Problems

1. A jogger runs the first 1,000 meters of a race in 250 seconds. What is the jogger's speed?

FORMULA _____ SET UP _____ ANSWER/UNITS

2. The space shuttle travels in orbit at 21,000 km/hr. How far will it travel after 5.0 hours?

FORMULA _____ SET UP _____ ANSWER/UNITS

3. A car accelerates from 0 to 72 km/hr in 8.0 seconds. What is the car's acceleration?

FORMULA _____ SET UP _____ ANSWER/UNITS

4.It is said that California is sliding "into the ocean." The sides of the fault line have moved 5 inches in the last 100 years. What is the average speed at which California will "fall into the ocean?"

FORMULA SET UP ANSWER/UNITS

5. A snowboarder glides down a long hill at a speed of 3 m/s. He travels a distance of 45 m. How long did it take him to travel that distance?

FORMULA SET UP ANSWER/UNITS

6. A tennis ball is served in .02 seconds. It reaches a max speed of 85 m/s. What is the tennis ball's rate of acceleration?

FORMULA SET UP ANSWER/UNITS

7. Lily was riding her bike northward traveling at a speed of 5 mi/hr. The bend in the road caused her to travel eastward at a speed of 5 mi/hr. Did she accelerate? Please explain.

8. Mrs. Kage was driving to work this morning. Her rate of acceleration was 15 m/s/s. The time it took her to reach All Saints was 900 seconds. How much did her speed change during her morning commute?

FORMULA SET UP ANSWER/UNITS

9. The 7th graders have been exceeding the speed limit when walking down for lunch. They were instructed to keep their speed below 8 m/s. Today, Mrs. Kage timed them walking down the hall. It took them 6.5 seconds to walk to the lunch line. The distance from her classroom to the lunch line is 50 meters. What was their speed?

FORMULA SET UP ANSWER/UNITS

10. Give two examples that can be used to help explain the difference between speed and velocity:

11. Tell me what the units are for....
    1. m/s/s=_____
    2. seconds=_____
    3. meters=_____
    4. m/s=_____
    5. hour=_____
    6. mi/hr/sec=_____