Speed, Velocity and Acceleration Worksheet

1. What is the speed of a rocket that travels 9000 meters in 12.12 seconds?
2. What is the speed of a jet plane that travels 528 meters in 4 seconds?
3. After an impact involving a non-functioning satellite, a paint chip leaves the surface of the satellite at a speed of 96 m/s. After 17 seconds, how far away has the chip landed?
4. The space shuttle Endeavor is launched to altitude of 500 km above the surface of the earth. The shuttle travels at an average rate of 700 m/s. How long will it take for Endeavor to reach its orbit?
5. How long will your trip take (in hours) if you travel 350 km at an average speed of 80 km/hr?
6. How many seconds will it take for a satellite to travel 450 km at a rate of 120 m/s?
7. What is the speed of a walking person in m/s if the person travels 1000 m in 20 minutes?
8. How far (in meters) will you travel in 3 minutes running at a rate of 6 m/s?
9. A trip to Cape Canaveral, Florida takes 10 hours. The distance is 816 km. Calculate the average speed.
10. In 0.5 seconds, a projectile goes from 0 to 300 m/s. What is the acceleration of the projectile?
11. A meteoroid changed velocity from 1.0 km/s to 1.8 km/s in 0.03 seconds. What is the acceleration of the meteoroid?
12. The space shuttle releases a space telescope into orbit around the earth. The telescope goes from being stationary to traveling at a speed of 1700 m/s in 25 seconds. What is the acceleration of the satellite?
13. A dragster in a race accelerated from stop to 60 m/s by the time it reached the finish line. The dragster moved in a straight line and traveled from the starting line to the finish line in 8.0 sec. What was the acceleration of the dragster?

14. An automobile travels on a straight road for 40 km at 30 km/h. It then continues in the same direction for another 40km at 60km/h.What is the average velocity of the car during this 80 km trip?
15. A truck on a straight road starts from rest and accelerates at 2.0 m/s^2 until it reaches a speed of 20 m/s. Then the truck travels for 20 s at a constant speed until the brakes are applied, stopping the car in a uniform manner in an additional 5.0 s. How long is the truck in motion and what is its average velocity during the motion?
16. While driving home from school you travel at 95 km/h for 130 km then slow to 65 km/h. You get home in 3 hours and 20 min. How far is your hometown from school and what is the average speed?
17. A person takes a trip, driving with a constant speed of 89.5 km/h, except for a 22 min rest stop. If the person's average speed is 77.8 km/h, how much time is spent on the trip and how far does the person travel?