Final Exam Review – Unit 2 – Kinematics

1. A tourist travels 320 km in 3.6 h. What is her average speed for this trip?
2. If your car averages 92 km/hr for a 5 h trip, how far will you go?
3. If you run with an average speed of 12.0 km/hr, how far will you go in 3.2 min?
4. If the average speed of your private jet is 8.0 x102 km/h, how long will it take you to travel a distance of 1.8 x 103 km?
5. A traveler drives 568 km in 7.2 h. What is the average speed for the trip?
6. Light travels with a speed of 3.0 km/s. How long will it take light from a laser to travel to the moon (where it is reflected by a mirror) and back to Earth? The moon is 3.84 x 105 km from Earth.
7. A high powered racing car accelerates from rest at a rate of 7.0 m/s2. How fast will it be moving after 10.0s? Convert this speed to km/hr.
8. A child on a toboggan slides down a snowy hill, accelerating uniformly at 2.8 m/s2. When the toboggan passes the first observer, it is travelling with a speed of 1.4 m/s. How fast will it be moving when it passes a second observer, who is 2.5 m downhill from the first observer?
9. Snoopy is taking off in his WWI biplane. He coasts down the runway at a speed of 40.0 m/s, then accelerates for 5.2 s at a rate of ½ (g), where g is the acceleration due to gravity (9.81 m/s2). How fast is the plane moving after 5.2 seconds?
10. Spiderman is crawling up a building at the rate of 0.50 m/s. Seeing Spiderwoman 56 m ahead of him; he accelerates at the rate of 2.3 m/s2. How fast will he be moving when he reaches Spiderwoman?