**Speed, Velocity, and Acceleration Problems**

**Use your OWN PAPER, and show ALL work. Show the formula used, the setup, and the answer with the correct units. Pay attention to the units!**

**Equations**

Speed = distance/time

Average speed = total distance/total time

Acceleration = (final velocity – initial velocity)/time

**Problems:**

1. Pete is driving down 7th street. He drives 150 meters in 18 seconds. Assuming he does not speed up or slow down, what is his speed in meters per second?

2. A person jogs 4.0 km in 32 minutes, then 2.0 km in 22 minutes, and finally 1.0 km in 16 minutes. What is the jogger’s average speed in km per minute? In m per second?

3. A train travels 120 km in 2 hours and 30 minutes. What is its average speed?

4. A plane’s average speed between two cities is 600 km/hr. If the trip takes 2.5 hrs. how far does the plane fly?

5. George walks to a friend’s house. He walks 750 meters North, then realizes he walked too far. He turns around and walks 250 meters South. The entire walk takes him 13 seconds. What is his speed per second?

6. A roller coaster’s velocity at the top of a hill is 10 m/s. Two seconds later it reaches the bottom of the hill with a velocity of 26 m/s. What was the acceleration of the coaster?

7. A roller coaster is moving at 25 m/s at the bottom of a hill. Three seconds later it reaches the top of the hill moving at 10 m/s. What was the acceleration of the coaster?

8. A car traveling at 15 m/s starts to decelerate steadily. It comes to a complete stop in 10 seconds. What is it’s acceleration?