Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Physics 11

**Worksheet 2.4**

**Acceleration**

1. The Dodge Tomahawk can accelerate at an incredible 15.9 m/s2. How much time will it take to accelerate from 0 to 100 km/h?
2. A rock is falling downwards at 13 m/s. 2.0 seconds later it is falling at 31.6 m/s. What was its acceleration?
3. An NFL wide receiver can reach a top speed of 10.0 m/s in only 2.4 s. What is their acceleration during this time?
4. A car traveling at 32 km/h accelerates to 54 km/h at a rate of 1.8 m/s2. How long does it take to reach this speed?
5. A student is gliding along on a physics scooter at a comfortable 2.8 m/s when Mr. Q walks around the corner and the two collide. If the student is brought to rest in 150 ms, what is their acceleration?
6. A car is moving at 30 km/h when it accelerates at 2 m/s2 for 3.6 s. What is the car’s final speed?

Answers: 1) 1.75 s 2) -9.3 m/s2 3) 4.17 m/s2 4) 3.4 s 5) -18.7 m/s2 6) 15.53 m/s