**Reaction Time**

1. You are driving at 110 km/h and notice an obstruction appears in the distance. It takes 0.7 seconds for you to recognize the obstruction and another 0.6 seconds to move your foot to the brake. The conditions you are driving in only allow you to slow down at a rate of 4 m/s2. From the instant the obstruction appears until you stop, what distance do you travel? *[156.83 m]*
2. You are 125 m behind an SUV and are both travelling 90 km/h. You look down to adjust the radio, and while doing so, the SUV ahead begins to brake at 6 m/s2. By the time you look back up the SUV has been braking for 1 second. It takes an additional 1.62 seconds for you to react and begin braking, which you do at a rate of 2.5 m/s2. How close are you to the SUV when you are both stopped? Did you crash? *[-13.17 m]*
3. School zones typically have a speed limit of 30 km/h while residential streets have a speed limit of 50 km/h. Calculate the distance travelled by the car when the car is travelling 50 km/h, and then calculate the distance travelled car when the car is travelling 30 km/h. Assume the driver’s reaction time is 0.7 seconds and the braking acceleration is 1.5 m/s2. *[74.1 m, 28.5 m]*