1. A lime is thrown upward with a velocity of 5 m/s. How long will it take before it returns to its original height? What will its’ maximum height be (as measured from where it was thrown)?

**Qualitative Representation**

**Variables and Equations**

**Solution (remember, show your reasoning and math)**

**Reasonability check?**

1. An egg is dropped from a building that is 61 m high. What will its’ speed be at the instant it reaches the ground? How long will it take to get there?

**Qualitative Representation**

**Variables and Equations**

**Solution (remember, show your reasoning and math)**

**Reasonability check?**

1. A monorail starts from rest and accelerates at a rate of 2.2 m/s2 for 10 s. It runs at a constant speed for 74 s and then slows down at a rate of 1.5 m/s2 until it stops. What is the total travel time of the monorail? How far did it move?

**Qualitative Representation**

**Variables and Equations**

**Solution (remember, show your reasoning and math)**

**Reasonability check?**

1. A speedboat traveling at a constant velocity of 20 m/s passes a police boat at rest. The police boat starts up 8 seconds after the speedboat passes, and accelerates at 2.3 m/s2 When and where does the cop catch the speedboat?

**Qualitative Representation**

**Variables and Equations**

**Solution (remember, show your reasoning and math)**

**Reasonability check?**