**February 18th 2014**

1. v=v0+at
2. x-x0=v0t+1/2at2
3. v2=v02+2a(x-x0)
4. k=1/2mv2
5. You pull a cinderblock a distance of 373 meters with a rope directed 35 degrees above the ground. The tension on the rope is 127 N.
   1. What is the total work done by the tension?
   2. If you are walking up a hill that inclines at 25 degrees, and pulling the cinderblock at an angle of 35 degrees with respect to the ground, what is the total work done if the tension is the same.
6. Suppose you push on a car with 500N of force at a direction 10 degrees downward with respect to the horizontal. (friction is negligible)
   1. How much work do you do?
   2. If it starts from rest what is its speed after going 12m? Assume the car weighs 1000kg.
7. A 2.1 kg ball dropped from a cliff reaches the ground in 3.4 seconds. What is the gravitational potential energy of the ball the moment it is dropped?