**January 23rd 2014**

1. v=v0+at
2. x-x0=v0t+1/2at2
3. v2=v02+2a(x-x0)
4. A motorcycle stunt driver leaves a ramp that is sitting at a 45 degree angle and flies over 21 school buses sitting side by side. Assume each school bus is 2.5 meters wide. What does the initial velocity of the motorcycle have to be for the stunt driver to

clear the buses?

1. A model rocket accelerates in the horizontal direction at a rate of 5.6 m/s2 and in the vertical direction at a rate of 7.8 m/s2. After 16 seconds, the rocket runs out of fuel and loses all acceleration. What is the total horizontal distance the rocket traveled, and what was the total time the rocket was in flight?
2. A block is being pulled in the negative x-direction by a 22.3 N force. A rope, connected to the upper right corner of the block is the only thing keeping the block in place. The tension on the rope is 34.6 N. What is the largest angle the rope can have with the horizontal to keep the block at rest?