Kinematics / Set 3 / Animation 3

Name _____ Class _____

<Show all work on calculations. Include proper units. Explanations require complete sentences.>

1) Calculate how fast the bullet is moving horizontally through the air.

Change the INITIAL TARGET VELOCITY and shoot again to see if you can hit it. DO NOT click INITIALIZE or you will reset to the initial conditions.

2) Did you hit the target ? If not, go back to number 1 and start again.

Try hitting an accelerating target. Change the INITIAL TARGET VELOCITY to 0 m/s.

3) Starting from rest, calculate the rate of acceleration that the target will need to strike the bullet.

Change the INITIAL TARGET VELOCITY to 0 m/s and TARGET ACCELERATION to the appropriate value and shoot again to see if you can hit it. DO NOT click INITIALIZE or you will reset to the initial conditions.

4) Did you hit the target ? If not, go back to number 3 and start again.

5) Get a hot cup of cocoa and take the Target Challenge. Only a true physics geek can make all values nonzero and still hit the target.