Name: _____ Lab Section: _____ Date: _____

PreLab: Collisions

Instructions: Prepare for this lab activity by answering the questions below. Note that this is a **Pre**Lab. It must be turned in at the start of the lab period. Time cannot be given in lab to perform PreLab activities. After the start of lab activities, PreLabs cannot be accepted. Explain your answers. Points will be taken off if your work is not neat and well organized.

1. (12 points) Cart A has mass 154g. Cart B has a mass 245g. The carts are on a frictionless track. Cart B is initially at rest. Cart A is initially moving towards Cart B at a speed 1.00m/s_i.

   If the two carts stick together after the collision (a completely inelastic collision), determine

   a. the velocities of the carts after the collision. (Show your work.)

   b. the total kinetic energy of the carts after the collision. (Show your work.)

   c. the ratio of final kinetic energy to initial kinetic energy. (Show your work.)

2. (3 points) How will friction impact the measurements you make in the experiment?