NAME _____ SECTION _____

PRELAB 2: PROJECTILE MOTION

COMPLETE THIS EXERCISE BEFORE COMING TO LABORATORY, AND TURN IN AT THE BEGINNING OF LAB 2

1) **[10 points]** Suppose you drop an object from an airplane traveling at constant velocity, and further suppose that air resistance does not affect the falling object.
   a) Sketch the object's falling path as observed by someone at rest on the ground, not directly below the plane's path, but off to the side with a clear view.
   b) What will be the falling path as observed by you looking downward from the airplane?
   c) Where will the object strike the ground, relative to you in the airplane?
   d) Sketch graphs of the horizontal and vertical components of the velocity and acceleration of the object vs. time as measured by someone on the ground. (Note: this asks for **four** graphs)
   e) Where will the object strike the ground in the more realistic case in which air resistance does affect its fall?