Complete problems 1-5. You MUST draw a sketch with every question that accurately represents the problem.

1. Bobby hits a golf ball. The following function models the height, f(x), in feet, of an object x seconds after it is hit in the air: $f(x) = -16x^2 + 96x$. What time is the golf ball highest in the air and how high is it?

2. Jason Heyward hits a baseball. The following function models the height, h(t), in feet, of an object t seconds after it is in the air: $f(t) = -16t^2 + 64t + 3$. What is the highest the baseball will go? Is the baseball going up or going down after 2.5 seconds?

3. A shoe is thrown off a cliff. The following function models the height, f(x), in feet, of an object x seconds after is in the air: $f(x) = -16x^2 + 24x + 150$. Is the shoe going up, down, or at its highest point after 3 seconds? How high is it after 3 seconds?

4. Bozo the clown is shot out of a human canon at the circus. The following function models the height, h(t), in feet, of an object t seconds after it is in the air: $f(t) = -16t^2 + 32t + 5$. Is Bozo going up or down after 2 seconds? How high off the ground is he after 2 seconds?

5. A nerf gun shoots a foam dart into the air. The following function models the height, f(x), in feet, of an object x seconds after it is in the air: $f(x) = -16x^2 + 16x + 6$. Is the foam dart going up or down after 1 second? How high is the foam dart at 2 seconds? Can this happen?