Math 221 2007/11/12 **QUIZ 11** Name _____

- Show all your work for each problem; show enough work to fully justify your answer.
- Simplify all answers as far as possible.

The setup: You toss your ball up from the roof, at height 160 ft. Gravity pulls it down so it has the height equation $y = 16t^2 + v_0 t + y_0$, where y_0 is the initial height (measured from the street) and v_0 is the velocity with which you tossed your ball.

(1) [Points: 5] What is the value of y_0? (You can tell from the setup.)

(2) [Points: 10] What is the velocity you should give the ball at that initial toss, if you want the ball to hit the ground in exactly 5 sec.?

(3) [Points: 10] What is the velocity you should give the ball at that initial toss, if you want the ball to hit the ground at a speed of 96 ft./sec.?