Problem 22

Assume that the conditions are as in Problem 20 except that there is a force due to air resistance of magnitude $v^2/1325$ directed opposite to the velocity, where the velocity v is measured in m/s.

(a) Find the maximum height above the ground that the ball reaches.

(b) Find the time that the ball hits the ground.

(c) Plot the graphs of velocity and position versus time. Compare these graphs with the corresponding ones in Problems 20 and 21.