Name_____

Student I.D._____

Math 2250-1
Quiz 8
October 28, 2011

1) Consider the differential equation for $x(t)$, which could arise in a model for damped mechanical motion:

$$x''(t) + 2 \cdot x'(t) + 5 \cdot x(t) = 0 .$$

1a) Find the general solution to this differential equation.

(6 points)

1b) What kind of damping is illustrated in this differential equation and its solutions?

(1 point)

1c) Use your work in (1a) to solve the initial value problem

$$x'' + 2 \cdot x' + 5 \cdot x = 0$$
$$x(0) = -1$$
$$x'(0) = 3 .$$

(3 points)