

Name_____

Student I.D._____

Math 2250-1
Quiz 8
October 26, 2012

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

$$x''(t) + 4x'(t) + 5x(t) = 0.$$

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

(5 points)

1b) Which damping phenomenon is exhibited by solutions to this differential equation?

(1 point)

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

$$x''(t) + 4x'(t) + 5x(t) = 0$$

$$x(0) = 2$$

$$x'(0) = 0.$$

(4 points)