Diff Eq - 3450:335 Name:_____
Quiz 8 Spring 03 DUE Fri. 03/14/08

1. [10 pts] A mass weighing 12 lbs. stretches a spring 2 ft on coming to rest at equilibrium. From a position 1 ft below the equilibrium position the weight is given an upward velocity of 4 ft/s. Assuming there is no damping in the system, when is the first time the mass will return to 1 ft below equilibrium position.

2. [10 pts] An object of mass 1 kg is placed on a spring whose constant is 1 newton/m. The spring-mass system is placed in a medium that is characterized by a damping constant C. The mass is given a downward velocity of e ft/s from the equilibrium position. If C is chosen so that the system is critically damped, how far will the mass drop from its initial position?