

Math 207 Quiz #8
May 25, 2010

Name: _____

Show all work and answers on a separate sheet with a box around your final answer. You can use calculators, but aside from arithmetic, you must show your work.

1. A 2 kg object is attached to a spring with stiffness 10 N/m. The damping constant of the system is 4 N-sec/m. The mass has an initial position that is 1 meter to the right of the equilibrium and the initial velocity is 5 m/sec to the right.
 - (a) (5 pts.) Find an equation of motion. (Write it as succinctly as possible, which means that you should write a combination of sinusoidal functions as one sinusoidal function if possible.)
 - (b) (2 pts.) Find the quasiperiod and quasifrequency of the equation of motion.
 - (c) (3 pts.) When does the object first return to its equilibrium position?