

Math 207 Quiz #7
May 17, 2011

Name: _____

Show all work and answers on a separate sheet. Put a box around your final answer.

1. (3 pts.) Determine the **form** of the particular solution of $2y'' - 2y' - 12y = 7te^{3t}$. **(You do not need to solve for the coefficients of the particular solution.)**

2. (3 pts.) Find the general solution of the third-order non-homogeneous equation $y''' + 16y' = 10e^x$.

3. A 1 kg object is attached to a spring with stiffness 5 N/m. The damping constant of the system is 4 N-sec/m. The mass has an initial position that is 2 meters to the right and the initial velocity is 3 m/sec to the right.
 - (a) (3 pts.) Find an equation of motion of the object given that there is no external force acting on the object.
 - (b) (1 pt.) Give the quasifrequency of the equation of motion.