Name_____

Student I.D._____

Math 2250-4
Quiz 9
March 23, 2012

1) Consider the following mechanical oscillation differential equations. In each case answer the following questions:

(i) What is the undetermined coefficients "guess" for the particular solution $x_P(t)$? (Do NOT try to find the precise particular solution, just its form.)
(ii) What physical phenomenon will be exhibited by the general solutions to this differential equation?

Each problem is worth three points, with one free point.

1a) $x''(t) + 10\,x(t) = \cos(3\,t)$.

1b) $x''(t) + 9\,x(t) = \cos(3\,t)$

1c) $x''(t) + 0.2 \cdot x'(t) + 9\,x(t) = \cos(3\,t)$