Math 2243 Fall 2015 - Quiz 8

11/19/15 - 10 Minutes **Name:**

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(1) (5 Points) Set up an appropriate particular solution y_p, for the differential equation,

$$y^{(3)} - y'' - 12y' = x - 2xe^{-3x}$$

which have complementary function given by;

$$y_c = C_1 + C_2e^{-3x} + C_3e^{4x}$$

(Do not determine the values of coefficients).

(2) (5 Points) Solve the initial value problem;

$$y'' + 4y = 2x\,; \quad y(0) = 1\,, y'(0) = 2$$

whose particular solution is given by;

$$y_p = \frac{x}{2}.$$