Math 2250-4
Quiz 7
March 2, 2012

1) Consider the differential equation for $y(x)$
$$y'' + 7y' + 12y = 0 .$$
1a) Find the general solution to this differential equation.

(5 points)

1b) What is the dimension of the solution space above?

(1 point)

2) Now consider the non-homogeneous differential equation
$$y'' + 7y' + 12y = -24.$$
Notice that a particular solution to this differential equation is the constant function $y_P = -2$. Use this particular solution and your work in problem (1) in order to solve the initial value problem
$$y'' + 7y' + 12y = -24$$
$$y(0) = -3$$
$$y'(0) = 1 .$$

(4 points)