University of Waterloo
MATH 213, Spring 2015
Assignment 3

Question 1

Find the general solution for the following differential equations. Hint: Some roots are complex. You may want to use factor theorem.

a) $y'''' - 8y'' + 72y' - 65y = 0$
b) $y^{(6)} - 4y^{(5)} + 6y^{(4)} - 8y^{(3)} + 9y'' - 4y' + 4y = 0$

Question 2

Find the general solution of the following differential equation using the method of undetermined coefficients.

$$y'' - 8y' + 15y = x + \cos 2x$$