WRITTEN HOMEWORK 5

MATH 46 SEC 030

This homework will be due on Thursday May 14.

Question 1 Find the general solution of

$$y'' - 6y' + 9y = 0$$

Question 2 Find the general solution of

$$y'' + 2y' + 2y = 0$$

Question 3 Find the general solution of

$$y^{(4)}(x) + y''(x) - 6y = 0$$

Question 4 Find the Wronskian matrix of the given sets of functions and use that information to determine whether the given sets are linearly independent.

(1) $\{x^3,\ x^2 + 2x\}$
(2) $\{e^{-x},\ e^x,\ e^{2x}\}$

Question 5 Find the general solution of $y''' - y'' - y' + y = 5$, given $y = 5$ as a particular solution.