

MA 331

Name (Print): _____

Fall 2017

Homework 4: 2nd Order Constant

Coefficients

Due: 09/28/17

Find the general solution to the given differential equation

1.) $y'' + 5y' + 6y = 0$

2.) $y'' + 9y = 0$

3.) $y'' + 8y' + 16y = 0$

4.) $y'' + 10y + 41 = 0$

5.) $z'' - 6z' + 10z = 0$

6.) $z'' + z' - z = 0$

7.) $w'' + 4w' + 6w = 0$

8.) $z'' + 10z' + 2z = 0$

Solve the given initial value problem

9.) $y'' + 2y' - 8y = 0, \quad y(0) = 3, \quad y'(0) = -12$

10.) $w'' - 4w' + 2w = 0, \quad w(0) = 0, \quad w'(0) = -1$

11.) $y'' + 2y' + y = 0, \quad y(0) = 1, \quad y'(0) = -3$

12.) $y'' - 2y' + 2y = 0, \quad y(\pi) = e^\pi, \quad y'(\pi) = 0$

13.) $z'' - 2z' - 2z = 0, \quad z(0) = 0, \quad z'(0) = 3$