Math 1B: Discussion 4/30/19

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Question 1

Solve the following nonhomogeneous equations.

$$y'' - 3y' + 4y = \sin(2x)$$

$$y'' - 3y' + 2y = xe^{3x}$$

$$y'' - 3y' + 2y = e^x$$

$$y'' - 3y' + 2y = (2x - 1)e^{2x}$$

$$y'' + y = \sin(x) + e^x$$

$$y'' + 2y' + 2y = e^{-x}\sin(x) + e^x$$

Question 2

Solve the following differential equation using a power series solution. (Second one is from the textbook exercises).

$$y'' - 4y = 0$$

$$y'' + xy' + y = 0$$