



WEEK IN REVIEW SESSION #5 (SECTIONS 3.4-3.6)

1. Find the general solution of the equation $y'' + 2y' + y = 0$.
2. Find the general solution of the equation/solve the initial value problem
 - (a) $y'' + 6y' + 9y = t \cos(2t)$
 - (b) $4y'' + y' = 4t^3 + 48t^2 + 1$
 - (c) $y'' + 2y' + y = 4e^{-t}$, $y(0) = 2$, $y'(0) = 1$
3. Find the form of a particular solution for each of the following nonhomogeneous equations.
 - (a) $y'' + 2y' + 2y = e^{-t} \sin t + e^{-t} \cos 2t$
 - (b) $y'' - 2y' + y = te^t + t^2e^{-t} + e^t \cos t + t^2$
4. Find the general solution of the equation $y'' + 6y' + 9y = \frac{e^{-3x}}{1 + 2x}$.