Method of Undetermined Coefficients Continued (4.5)

1. Determine a suitable form for $Y(t)$ if the method of undetermined coefficients is to be used. No need to solve.

a. $y'' - 4y' + 4y = 2t^2 + 4te^{2t} + t\sin 2t$.

b. $y'' + 3y' + 2y = e^t(t^2+1)\sin 2t + 3e^{-t}\cos t + 4e^{-2t}$.

2. Find the general solution by the method of undetermined coefficients.

a. $4y'' - 4y' + y = 16e^{t/2}$

b. $y'' + 2y' = 3 + 4\sin 2t$

c. $y'' - 2y' - 3y = -3te^{-t}$