Q1. Verify that $xe^{(3x/2)}$ is solution of $y'' - 3y' + (9/4)y = 0$.

Q2. $\{e^{3x}, e^{4x}\}$ are complimentary solutions of the differential equation $y'' - 7y' + 12y = 0$. Are these solutions linearly independent?

Q3. Find general solution of $y'' + 6y' + 9 = 0$.

Q4. Find general solution of $4y'' - 12y' + 9y = 0$.

Q5. Find general solution of $y'' + 25y = 0$

Q6. Using given solutions in Q2, of the differential equation $y'' - 7y' + 12y = 0$, find a particular solution satisfying $y(0) = 2$, and $y'(0) = 3$.