

1. Solve $y''' - 2y'' + 2y' = 0$. Verify that your general solution is formed from fundamental solutions.

2. Find the general solution to $y''' - y'' - y' + y = 0$.

3. Find the general solution to $y^{(5)} + 2y''' + y' = 0$.

4. Find the fundamental set of $y^{(5)} - 2y^{(4)} - 16y' + 32y = 0$.

5. Solve $4y'' + 4y' + y = 0$, $y(0) = 1$, $y'(0) = 2$.

6. Solve $y^{(5)} + 8y''' + 16y' = 0$.