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. Write down a linear DE with constant coefficients which has solutions $x, \cos x, e^{2x}, x\sin(2x)$.