

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