

## Worksheet 3/2/2026

1) Find a particular solution to  $y'' + 4y' + 3y = x^2$  using the method of Undetermined Coefficients.

2) Solve the initial value problem  $y'' + 4y' + 3y = x^2$ ,  $y(0) = 1$ ,  $y'(0) = -1$ .

3) Find a particular solution to  $y'' - 2y' + y = e^x$  using the method of Undetermined Coefficients.

4) Find a particular solution to  $y'' - 2y' + y = e^x + \cos(2x)$ .

5) Find a particular solution to the ODE  $y'' - 2y' + y = e^x$  using the method of Variation of Parameters.