

Nonhomogeneous Linear Equations

Undetermined Coefficients - Superposition

1. Solve the given differential equation by undetermined coefficients.

$$y'' - 10y' + 25y = 30x + 3$$

2. Solve the given differential equation by undetermined coefficients.

$$\frac{1}{4}y'' + y' + y = x^2 - 2x$$

3. Solve the given differential equation by undetermined coefficients.

$$y'' - y' + \frac{1}{4}y = 3 + e^{x/2}$$

4. Solve the given differential equation by undetermined coefficients.

$$y'' + 4y = 3\sin(2x)$$