

HOMEWORK #7 (Chapter 3 Higher –Order Differential Equations)

Solve the given differential equation.

1. $x^2 y'' + xy' + 4y = 0$ (Exercises 3.6 Problem 5)
2. $x^3 y''' + xy' - y = 0$ (Exercises 3.6 Problem 16)

Solve the given initial-value problem.

3. $x^2 y'' + xy' + y = 0$, $y(1) = 1$, $y'(1) = 2$ (Exercises 3.6 Problem 25)

Solve the given differential equation by undetermined coefficients.

4. $y'' + 3y = -48x^2 e^{3x}$ (Exercises 3.4 Problem 7)