

Problem 1

For Problems 1–4 determine the order of the differential equation.

$$\frac{d^2y}{dx^2} + x\frac{dy}{dx} + y = e^x.$$

Solution

The order of this ODE is 2 because the highest derivative in the equation is the second derivative.

$$\frac{d^2y}{dx^2} + x\frac{dy}{dx} + y = e^x$$