

Differential Equations Review

1. $y' + 2y = x + e^{-3x}$ $y(0) = 2$

2. $x \frac{dy}{dx} + y = 2x \sin x$

3. $(1 + x^2)y' + y = 3$ $y(0) = 2$

4. $y'' + 4y' + 4y = 4 \cos(2x)$ $y(0) = 0$ $y'(0) = 1$

5. $y'' + 9y = xe^{2x}$

6. $2y'' + 7y' + 3y = 3x^2 + 4$ $y(0) = 0$ $y'(0) = 1$