

Question 1

0 out of 1 points

1. Solve the following linear differential equation.

$$2xy' + 2xy = x^3 e^{-x}$$

- (a) $y = \frac{x^3}{6} + C$
- (b) $y = \frac{1}{e^{-x}} \left[\frac{x^3}{3} + C \right]$
- (c) $y = \frac{1}{e^x} \left[\frac{x^3}{6} + C \right]$
- (d) None of the above

Question 2

1 out of 1 points

Question 10

0 out of 1 points

10. Using the method of undetermined coefficients, what is an appropriate form for the particular solution to

$$y'' + 5y' + 6y = (t^2 + 2t + 1)e^{2t}$$

- (a) $y_p(t) = (A_1t + A_0)e^{2t} + (B_1t + B_0)e^{2t}$
- (b) $y_p(t) = (A_2t^2 + A_1t + A_0)e^{2t}$
- (c) $y_p(t) = (A_2t^2 + A_1t + A_0)e^{2t} \cos(t) + (B_2t^2 + B_1t + B_0)e^{2t} \sin(t)$
- (d) None of the above.