

# MATH 3503 - Winter 2025

## Quiz 1-B

January 2025

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1. Which of the following are homogeneous? (3 Marks)

(a)  $y' + y = 0$

(b)  $\frac{dy}{dx} = 12x$

(c)  $y' = 6y$

**Ans:**

2. Solve the equation  $y' = x^2y$  (3 Marks)

**Ans:**

3. Solve the Bernoulli equation  $y' + 2xy = y^3$ . You will end up with a linear equation that requires an integrating factor as part of the solution. (4 Marks)

**Ans:**