

Math 252 Test One
Section X01

Time: 50 Minutes
Total: 24 Marks

Name: _____

1. [4 marks] Find an implicit solution:

$$\frac{dy}{dx} + (3 + \frac{1}{x})y = \frac{8}{x}$$

2. [6 marks] Find an implicit solution:

$$[\sin(6y) + xe^x]dx + [6x \cos(6y) + \frac{2}{\sqrt{y}}]dy = 0, \quad y(0) = 4$$

3. [6 marks] Find an implicit solution:

$$\frac{dy}{dx} - \frac{1}{x}y = \frac{x^2}{y}$$

4. [8 marks] Find an **explicit** solution:

$$\frac{dy}{dx} = y^2 - 49$$