

King Fahd University of Petroleum and Minerals
Department of Mathematics and Statistics

Math 202 Section#: Serial #: Quiz I(a) (Term 182)

Name : ID #..... Marks/7

1. Find an explicit solution of the initial value problem

$$(\sqrt{x} + x) \frac{dy}{dx} = \sqrt{y} + y, \quad y(0) = 1.$$

2. Solve the differential equation

$$(x^2 - 9) \frac{dy}{dx} + 6y = (x + 3)^2$$

and give its interval of solution.

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Math 202 **Section#:** **Serial #:** **Quiz I(b) (Term 182)**

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1. Find an explicit solution of the differential equation

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

2. Solve the initial value problem

$$y' + (\tan x) y = \cos^2 x, \quad y(0) = -1.$$

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Math 202 Section#: Serial #: Quiz I(c) (Term 182)

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1. Find an explicit solution of the differential equation

$$\frac{dp}{p - p^2} = dt$$

Is this solution a general solution? **Justify your answer.**

2. Solve the differential equation

$$y' + \frac{1 - 2x}{x^2} y = 1.$$