King Fahd University of Petroleum and Minerals
Department of Mathematics and Statistics
Math 202 (112) - Quiz 1

Name: ID: Serial No.:

1. Solve the IVP

$$\frac{dy}{dx} = \frac{\sqrt{y^2-1}}{x-x^2}, \qquad y(1/2) = 1.$$

2. Solve the DE

$$(1-x^2)\frac{dy}{dx} = x(1-x^2)^{1/2} - 2xy$$

3. Determine the region in which the DE

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

has a unique solution through $(1, -2)$.