

1. Use of cell phones is NOT allowed.
2. Answers without supporting work will NOT be given credit.
3. You have **15 minutes** to complete this quiz.

Name:

Serial:

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1. Determine whether the following IVP has a **unique** solution or not

$$\frac{dy}{dx} = \sqrt{y^2 - 9}$$

$$y(2) = -3$$

2. Solve the following differential equations:

(a)  $(xy - 3y + x - 3) \frac{dy}{dx} = xy + 2y - x - 2$

(b)  $x \frac{dy}{dx} = -(1+x)y + e^{-x} \sin(2x)$