

NORTH SOUTH UNIVERSITY
Department of Mathematics and Physics
Course: Calculus and Analytical Geometry-I, Code: MAT 120–10
Spring 2022, Quiz # 02, Time: 20 minutes, Marks: 20
Uploaded Time: 05 minutes

Question1. Find an equation for the tangent line to the parabola $y = x^2 - x$ at the point $P(0, 0)$.

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Question2. Let

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$$f(x) = \begin{cases} x^2 + x + 1, & x \leq 1 \\ 3x, & x > 1 \end{cases}$$

Is f continuous at $x = 1$? Sketch the graph of f Using graph determine its domain and range.

Question3. Find $f'(x)$ for

06

$$f(x) = \frac{\sqrt{x} + x}{x^2 - 3}$$