King Fahd University of Petroleum and Minerals
Department of Mathematics and Statistics
Math 101 (121) - Quiz II

Name: ID: Serial No.:

1. Find the limit

$$\lim_{x \to -1} \frac{x^{2/9} - 1}{x + 1}$$

2. Find the values of a and b that makes the following function differentiable for all x-values

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

3. The curves $y = x^2 + ax + b$ and $y = cx - x^2$ have a common tangent line at the point $(1, 0)$. Find a, b and c.