

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

Calculus I

Quiz No. 3

Tuesday 28/03/2017

20 Minutes

Instructor: *Dr. Monjed H. Samuh*

Std. Name:

Std. ID:

Serial No.:

Q1]... [4 points] Let

$$f(x) = \begin{cases} ax + 3, & \text{if } x \geq -1 \\ bx^2 - ax, & \text{if } x < -1 \end{cases}$$

Find the values of a and b that make f differentiable everywhere.

Q2]... [3 points] If $g(x) = \frac{x^2}{f(\sqrt{x})}$; $f(2) = 1$ and $f'(2) = -1$, then find $g'(4)$.

Q3]... [3 points] Find the equation of the normal line to the curve $y = x^2 + 1$ that is parallel to the line $x + y = 2$.

GOOD LUCK