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

Calculus I

Quiz No. 3A   **Thursday 2/7/2015**   **15 Minutes**

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Name: [ ]   Student ID: [ ]

Q1]...[4 points] Let

$$
f(x) = \begin{cases} 0 & \text{if } x \leq 0 \\ 5 - x & \text{if } 0 < x < 4 \\ \frac{1}{5-x} & \text{if } x \geq 4 \end{cases} ,
$$

Where is $f(x)$ differentiable?

Q2]... [6 points] Find y' for each of the following

1. $y = (x^2 + 1)(x + x^3 + \sqrt{7x - x^3})$.

2. $y = \dfrac{1}{2 - \frac{x^2+1}{x^3+3x}}$.

3. $y = \sqrt{2x}\, e^{5x^2+2}$.

GOOD LUCK