King Fahd University of Petroleum and Minerals
Department of Mathematics and Statistics
Math 101 Section 03 Quiz I (Term 142)

Name : ..... **ID** #..... Serial #: .....

1. Find the limit if it exists:

   a) $\lim\limits_{x\to 3} \dfrac{9-x}{3-\sqrt{x}}$

   b) $\lim\limits_{x\to 0} x^2 \sin\left(\dfrac{1}{x^3}\right)$.

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c) $\lim_{x \to 0} \dfrac{\sin(3x)\ \cot(8x)}{x\ \cot(4x)}$

2. Use the graph of $f(x) = \dfrac{1}{x}$ to find the largest number $\delta > 0$ such that for all x,

$$0 < |x - 2| < \delta \Rightarrow \left| f(x) - \frac{1}{2} \right| < \frac{1}{8}$$