King Fahd University of Petroleum and Minerals
Department of Mathematics and Statistics
Math 101 (132) - Quiz 1

Name: ID: Serial No.:

1. Find $\lim\limits_{x\to\infty} \dfrac{1+\sin x}{x}$

2. Evaluate the limit or show that it does not exist.

$$\lim_{x\to 3^-} \frac{|x-3|}{2x^2 - 5x - 3}$$

3. Find the average rate of change of the function $g(t) = 2 + \cos(t)$ over the interval $[-\pi, \pi]$.

4. Evaluate the limit or show that it does not exist.

$$\lim_{x \to 4} \frac{4 - x}{5 - \sqrt{x^2 + 9}}$$

5. Use limits to find the equation of the tangent line to the graph of $f(x) = x - \dfrac{1}{x}$ at $x = 3$.