

King Fahd University of Petroleum and Minerals  
Department of Mathematics and Statistics  
Math 101 (142) Sec 10 - Quiz 1

Name:

ID:

Serial No.:

1. Find  $\lim_{x \rightarrow -1} \frac{x^3 + 1}{x + 1}$

2. Find  $\lim_{x \rightarrow -2} \frac{x + 2}{\sqrt{x^2 + 5} - 3}$

3. Find  $\lim_{x \rightarrow 0} \frac{x - x \cos x}{\sin^2 3x}$

4. For  $\lim_{x \rightarrow -1} \sqrt{3 + 2x} = 1$  find  $\delta > 0$  that works with  $\epsilon = 1$ , using the  $\epsilon - \delta$  definition.

5. Find  $\lim_{x \rightarrow 3^-} \frac{x^2 - 9}{|x - 3|}$

6. Find  $\lim_{x \rightarrow 0} (\sin^2 x) \cos\left(\frac{1}{x}\right)$