King Fahd University of Petroleum and Minerals
Department of Mathematics and Statistics
Math 101 (132) - Quiz 6

Name: ID: Serial No.:

1. Find $\lim\limits_{x \to 0^+} (\csc x - \cot x + \cos x)$

2. Find $\lim\limits_{x \to \infty} \left(\dfrac{x^2 + 1}{x + 2} \right)^{1/x}$

3. A rectangular plot of farmland will be bounded on one side by a river and on the other three sides by a single-strand electric fence. With 800 m of wire at your disposal, what is the largest area you can enclose, and what are its dimensions?

4. Newton's method is used to estimate the x-coordinate of the point of intersection of the curves $y = x^3 + 3x$ and $y = 4x + 1$. If we start with $x_0 = 1$, then find the value of x_1