

KING FAHD UNIVERSITY OF PETROLEUM AND MINERALS
DEPARTMENT OF MATHEMATICS AND STATISTICS
MATH 101 - QUIZ 7

Name:

Student ID #:

Question 1. Calculate the limit

$$\lim_{x \rightarrow 0^+} \left(\frac{1}{x} - \frac{1}{\sin(x)} \right).$$

Question 2. Given the function

$$f(x) = \frac{x + 1}{\sqrt{x^2 + 1}},$$

find its

- (1) the intervals of increase and decrease,
- (2) the local maximum and minimums,
- (3) intervals of concavity and the inflection points.

Your Solution.