

Discussion Problems

Name: _____

Worksheet 3: Limits and Continuity

Math 408C:

Instructor: Athil George

Problem 1. Find the $\lim_{x \rightarrow -\infty} \sqrt{16x^2 + x} - 4x$.

Problem 2. Consider the function $f(x) = \ln(b + \sin x)$. Determine if the function is continuous for the following values of b , and if it is discontinuous determine where it fails continuity.

(a) $b = 0$

(b) $b = 1$

(c) $b = 2$

Problem 3. Find the $\lim_{x \rightarrow 0} \frac{\sin(x)}{x}$.