Serial No.:_____ Student Name:_____ Student Number: _____

Instructor: M. Z. Abu-Sbeih Math 101- Q1 Date: 6-10-2016

SHOW ALL YOUR WORK. NO CREDITS FOR ANSWERES WITHOUT JUSTIFICATIONS

Problem 1: (16 points) Find the limit if it exists. Write ∞ or $-\infty$ when approperiate.

a) $\lim_{x \to 2^-} \dfrac{|x-2|(x-4)}{x-2}$

b) $\lim_{x \to 1} \left[\dfrac{1}{x}\right]$ where $[y]$ is the greatest integer less than or equal to y

c) $\lim_{x \to 3} \dfrac{x^2-9}{\sqrt{x^2+7}-4}$

d) $\lim_{u \to -2} \frac{u^3 + 8}{u^2 - 4}$

e) $\lim_{x \to 0} \left(\sin x^2\right)\left(\cos \frac{\pi}{x}\right)$