July 16, 2008 BCA-02

Math 101-07.073. Test 1. Marks: 50. 2.2356.

Dr. Raja Latif (SHOW COMPLETE SOLUTION)

NAME: _____, I.D. # _____

9.1, P22. Q.1. Find $\lim_{y \to 1} \frac{y^3-1}{y^2-1}$ if it exists (8)

Q.2. Find $\lim_{x \to 9^+} \frac{x-9}{\sqrt{x}-3}$ if it exists. (8)

(8) Q.3. Find $\lim_{x \to -1} \frac{x^{14} - 3x^{11} + 2x^3 - 10}{3x^9 + 2x + 1}$ if ex

(8) Q.4. Find $\lim_{x \to \infty} \frac{2x-6}{\sqrt{x^2-9}}$ if it exists.

(6×3=18) Q.5. Let $f(x) = \begin{cases} \sqrt{-x} & \text{if } x < 0 \\ 3-x & \text{if } 0 \le x < 3 \\ (x-3)^2 & \text{if } x > 3 \end{cases}$

Find each limit if it exists.

(a) $\lim_{x \to 3^-} f(x) =$ _____ (b) $\lim_{x \to 3^+} f(x) =$ _____

(c) $\lim_{x \to 3} f(x) =$ _____ (d) $\lim_{x \to 0^-} f(x) =$ _____

(e) $\lim_{x \to 0^+} f(x) =$ _____ (f) $\lim_{x \to 0} f(x) =$ _____