Math 101-162-Quiz #1_A

Name: **ID** **Serial:**

Q1: If $4x \le f(x) + 9 \le x^2 - 4x + 16$ for $x \ge 0$. Find $\lim_{x\to 4} f(x)$

Solution

$$\lim_{x\to 4} 4x = 16$$
$$\lim_{x\to 4} x^2 - 4x + 16 = 16$$

By squeeze theorem

$$\lim_{x\to 4} f(x) + 9 = 16 \quad \lim_{x\to 4} f(x) = 16 - 9 = 7$$

Q2: Find the limits

1. $\lim_{x\to 1} \frac{x-1}{\sqrt{x+3}-2}$

2. $\lim_{x\to 3^-} \frac{x^2-9}{|x-3|} =$

Math 101-162-Quiz #1_B

Name: **ID** **Serial:**

Q1: If $-4x \leq f(x) + 10 \leq x^2 + x - 6$ for $x \geq 0$. Find $\lim_{x \to 1} f(x)$

Q2: Find the limits

1. $\lim_{x \to 1} \frac{\sqrt{5-x}-2}{x-1}$

2. $\lim_{x \to 3^+} \frac{|x-3|}{x^2-9} =$