Math 101-171-Sec.49
Quiz #2

Name: **ID:** **SR:**

Question1: Discuss the continuity of $f(x) = \begin{cases} \frac{2x^2-5x-3}{x-3} & if\ x \neq 3 \\ 6 & if\ x = 3 \end{cases}$ over its domain.

Question2: Find $\lim_{x \to -\infty} \frac{\sqrt{1+4x^6}}{2-x^3}$ if exists.

Question3. Use the derivative definition to find $f^{\backslash}(a)$ for $f(x) = \frac{4}{\sqrt{1-x}}$

Question4: Find $f^{\backslash}(x)$ for the function $f(x) = \begin{cases} x^2 + 1 & if\ x \geq 2 \\ 4x - 4 & if\ x < 2 \end{cases}$ at all points in the domain. (Use derivative definition).