KFUPM SEM I (Term 051) Name: _____ Serial #: _____

MATH 101-9 Quiz # 2 ID: #: _____ Sec. #: _____

1. (5-points) Find $\lim_{x\to -2} \dfrac{2x^2+3x-2}{4-x^2}$.

2. (2-points) Find $\lim_{x\to +\infty} \dfrac{5-7x-42x^3}{3+15x+6x^2}$.

3. (3-points) Find $\lim_{x\to 2} \dfrac{x-2}{\sqrt{5x-1}-3}$.

4. (2-points) Find $\lim\limits_{x\to\frac{2}{3}^-} \dfrac{|2-3x|}{3x-2}$.

5. (4-points) Classify the discontinuities; as removable, jump, or infinite, of the function

$$f(x) = \begin{cases} 3x-2\,, & x<-1 \\ 6x+1\,, & -1<x\leq 0 \\ 2x-5\,, & 0<x\leq 1 \\ \dfrac{1}{x^2-x}\,, & x>1 \end{cases}$$

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1. (5-points) Find $\lim_{x\to 2} \dfrac{2x^2-3x-2}{x^2-4}$.

2. (2-points) Find $\lim_{x\to +\infty} \dfrac{7-3x+15x^3}{3-15x-6x^2}$.

3. (3-points) Find $\lim_{x\to 3} \dfrac{x-3}{\sqrt{4x-3}-3}$.

4. (2-points) Find $\lim_{x \to \frac{2}{3}^-} \dfrac{|3x-2|}{2-3x}$.

5. (4-points) Classify the discontinuities; as removable, jump, or infinite, of the function

$$f(x) = \begin{cases} \dfrac{1}{3x^2-4x}\,, & x < 0 \\ 10x - 9\,, & 0 \le x < 1 \\ 6x + 1\,, & 1 \le x < 2 \\ 3x + 7\,, & x > 2 \end{cases}$$