MATH 101-26 (101)
QUIZ # 1

NAME: Solution ID. #: .....

Q1. Evaluate

$$\lim_{x\to 3^-} \frac{2-5x}{x-3}$$

as $x \to 3^-$ we have $2-5x \to -13$ (1)

and $x-3 \to 0$ with $x-3 < 0$ (1)

then $\lim_{x\to 3^-} \frac{2-5x}{x-3} = \infty$ (1)

(1)

i.e. limit DNE

Q2. Find

$$\lim_{x\to 2} \frac{x^2-6x+8}{x^2-4}$$

note $x^2-6x+8 = (x-4)(x-2)$ (1)

and $x^2-4 = (x-2)(x+2)$ (1)

then within $x \neq 2$ we have (1)

$$\frac{x^2-6x+8}{x^2-4} = \frac{(x-4)(x-2)}{(x-2)(x+2)} = \frac{x-4}{x+2}$$ (1)

Thus, $\lim_{x\to 2} \frac{x^2-6x+8}{x^2-4} = \lim_{x\to 2} \frac{x-4}{x+2} = \frac{-2}{4} = -\frac{1}{2}$

(1) (1)