MAC 1114 – Section U07, Quiz # 1 NAME: [redacted]

Jun 20, 2009 STUDENT ID: [redacted]

IN ORDER TO RECEIVE FULL CREDIT, YOU MUST SHOW ALL YOUR WORK.
ENCLOSE FINAL ANSWER IN BOXES.

1. (5 pts) Use the graph of the function $f(x)$ in the figure below to find the following values or state that they do not exist. If a limit does not exist, explain why.

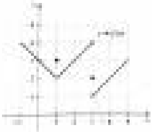
(a) $f(1) =$ 3

(b) $\lim f(x) =$ 1

(c) $\lim f(x) =$ 1

(d) $\lim f(x) =$ 2

(e) $\lim f(x) =$ $\lim_{x \to 3^-} f(x) \neq \lim_{x \to 3^+} f(x)$ so $\lim_{x \to 3} f(x)$ DNE



2. (4 pts) Evaluate the following limit:

$\lim_{x \to 2} \frac{x^2 - 6x + 8}{x^2 - 4} = \frac{(2)^2 - 6(2) + 8}{(2)^2 - 4} = \frac{4 - 12 + 8}{4 - 4} = \frac{12 - 12}{4 - 4} = \frac{0}{0}$

$\lim_{x \to 2} \frac{(x-2)(x-4)}{(x-2)(x+2)} = \lim_{x \to 2} \frac{x-4}{x+2} = \frac{2-4}{2+2} = \frac{-2}{4}$

$= \boxed{-\frac{1}{2}}$