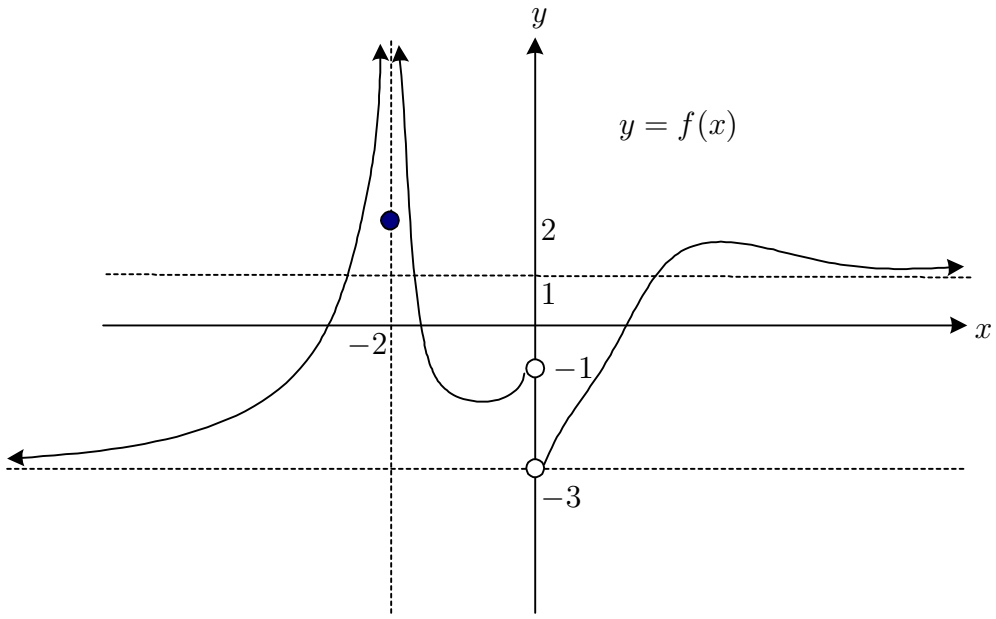
KFUPM SEM I (Term 041) Name: _____ Serial #: _____

MATH 101-6-11 Quiz # 1 ID: #: _____ Section #: _____

1. (5-points)



For the function f graphed in the above figure, find:

a) $\lim_{x\to-\infty} f(x)$

b) $\lim_{x\to-2^-} f(x)$

c) $\lim_{x\to-2^+} f(x)$

d) $\lim_{x\to0^-} f(x)$

e) $\lim_{x\to0^+} f(x)$

f) $\lim_{x\to0} f(x)$

g) $\lim_{x\to+\infty} f(x)$

Then write the equations of all the asymptotes of the graph of f:

Vertical asymptote(s):

Horizontal asymptote(s):

2. Find each of the following limits:

(a) (3-points) $\lim_{x\to 1/2^-} f(x)$, where $f(x) = \begin{cases} \dfrac{|1-2x|}{1-2x}, & x \neq 1/2 \\ 10, & x = 1/2. \end{cases}$

(Show your steps)

(b) (3-points) $\lim_{x\to 2^+} f(x)$, where $f(x) = \dfrac{1}{x^2-5x+6}$.

(Your answer must be either a constant, $+\infty$, or $-\infty$) (Show your steps).

(c) (4-points) $\lim_{x\to 4} \dfrac{\sqrt{x}-2}{x^2-5x+4}$. (Show your steps).