Review for Limits Quiz.doc **Name**_____

1) Find the limits (if they exist) for the graph of f(x) below.

$\lim_{x \to -4^-} f(x) =$ _____

$\lim_{x \to -4^+} f(x) =$ _____

$\lim_{x \to -4} f(x) =$ _____

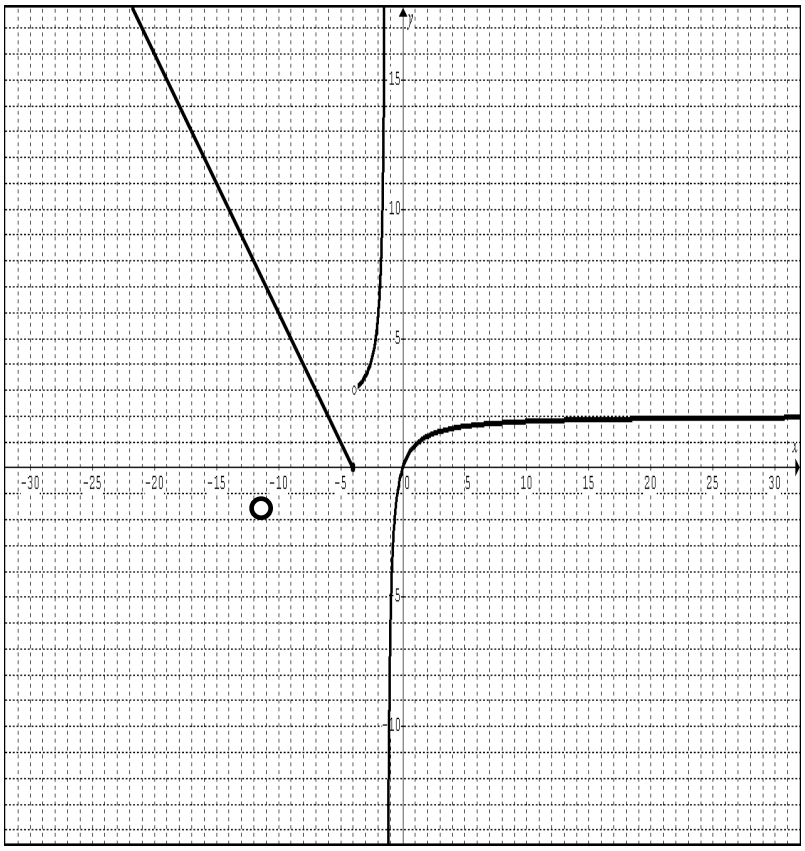
$\lim_{x \to -\infty} f(x) =$ _____

$\lim_{x \to \infty} f(x) =$ _____

$\lim_{x \to 0} f(x) =$ _____

$\lim_{x \to -1^-} f(x) =$ _____

$\lim_{x \to -1^+} f(x) =$ _____



2) Find the following limits algebraically.

a) $\lim_{x \to -\infty} \dfrac{x^2 + x}{x^3 + 2x^2}$

b) $\lim_{x \to \infty} \dfrac{x^2 + 3}{2x^2 - 2}$

c) $\lim_{x \to \infty} \dfrac{x^3 - x^2 - 2}{-2x^2}$

d) $\lim_{x \to -\infty} \dfrac{x^3 - x^2 - 2}{-2x^2}$

3) Find the following limits algebraically.

a) $\lim_{x \to 4^-} \dfrac{x^2+8x+16}{x+4}$

(a) 0 (b) 8 (c) 16 (d) -∞ (DNE) (e) ∞ (DNE)

b) $\lim_{x \to -4^-} \dfrac{x^2+8x+16}{x+4}$

(a) 0 (b) 8 (c) 16 (d) -∞ (DNE) (e) ∞ (DNE)

c) $\lim_{x \to 5^+} \dfrac{-x}{x-5}$

(a) 0 (b) 5 (c) $\dfrac{-1}{5}$ (d) -∞ (DNE) (e) ∞ (DNE)

d) $\lim_{x \to 1^-} \dfrac{-x}{x-5}$

(a) $\dfrac{-1}{6}$ (b) $\dfrac{1}{4}$ (c) $\dfrac{1}{5}$ (d) -∞ (DNE) (e) ∞ (DNE)

e) $\lim_{x \to 0^-} \dfrac{x^2-x-12}{x^2-4x}$

(a) -12 (b) 0 (c) 3 (d) -∞ (DNE) (e) ∞ (DNE)

f) $\lim_{x \to 3} \dfrac{x^2-x-12}{x^2-4x}$

(a) -3 (b) -2 (c) 2 (d) -∞ (DNE) (e) ∞ (DNE)