

Name: _____

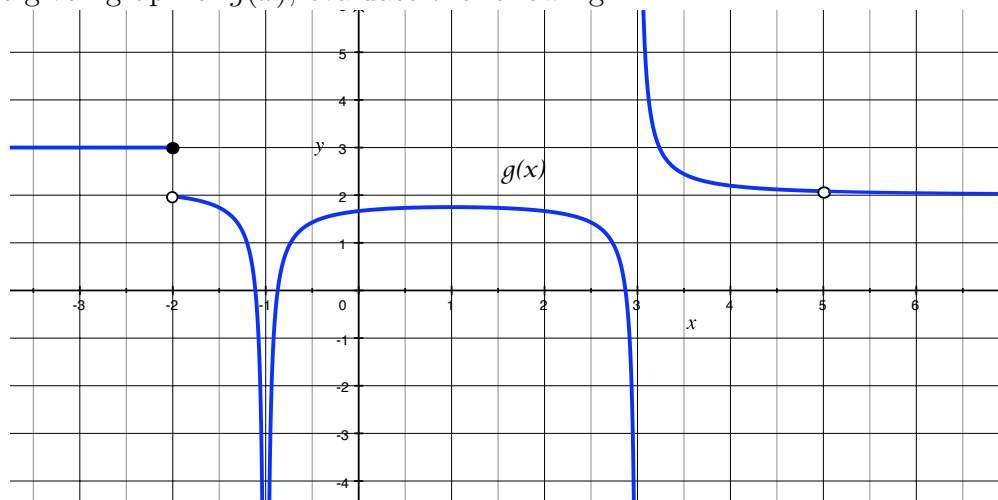
Math 124 Worksheet #1

April 6, 2007

1. Sketch a possible graph of a function f that satisfies the following conditions.

$$f(1) = 2, \quad \lim_{x \rightarrow 1} f(x) = 4, \quad \lim_{x \rightarrow 5^-} f(x) = 0, \quad \lim_{x \rightarrow 5^+} f(x) = -3$$

2. For the given graph of $g(x)$, evaluate the following.



$$\lim_{x \rightarrow -2^-} g(x)$$

$$\lim_{x \rightarrow -2^+} g(x)$$

$$\lim_{x \rightarrow -2} g(x)$$

$$\lim_{x \rightarrow -1} g(x)$$

$$\lim_{x \rightarrow 3^-} g(x)$$

$$\lim_{x \rightarrow 3^+} g(x)$$

$$\lim_{x \rightarrow 5} g(x)$$

3. Evaluate the following.

(a) $\lim_{x \rightarrow \sqrt{2}} 2x^6 - 3$

(b) $\lim_{t \rightarrow 1} (t^2 + 1)(3t^3 - 4t + 2)$

(c) $\lim_{x \rightarrow -1} \frac{x-3}{3x^2+3}$

(d) $\lim_{t \rightarrow 0} \frac{3t^2+6t}{t^3-4t}$