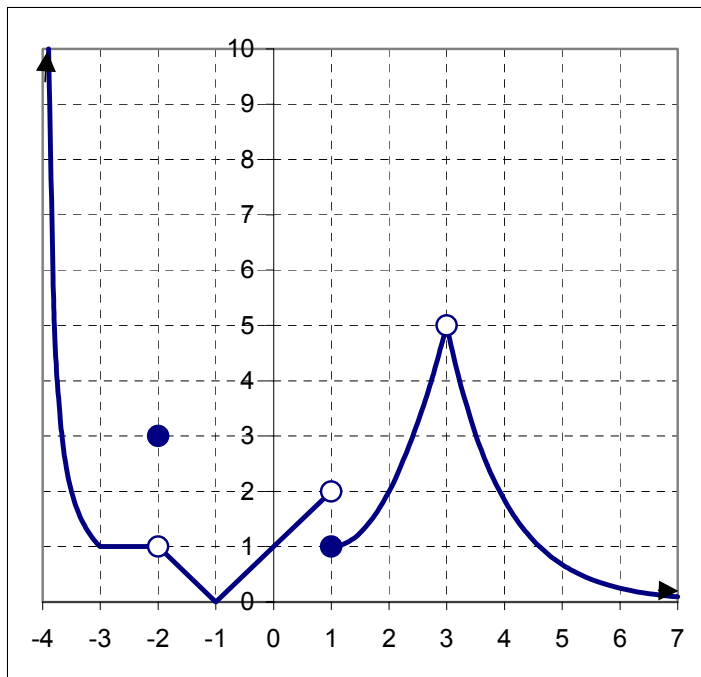


MATH 1205: Limits In-Class Worksheet



Using the above graph, find each of the following (You should assume that $y=0$ is a horizontal asymptote and $x = -4$ is a vertical asymptote):

1) $f(-2) = \underline{\hspace{2cm}}$

2) $\lim_{x \rightarrow -2^+} f(x) = \underline{\hspace{2cm}}$

3) $\lim_{x \rightarrow -2} f(x) = \underline{\hspace{2cm}}$

4) $\lim_{x \rightarrow -1^+} f(x) = \underline{\hspace{2cm}}$

5) $\lim_{x \rightarrow -1^-} f(x) = \underline{\hspace{2cm}}$

6) $\lim_{x \rightarrow -1} f(x) = \underline{\hspace{2cm}}$

7) $\lim_{x \rightarrow 1^+} f(x) = \underline{\hspace{2cm}}$

8) $\lim_{x \rightarrow 1^-} f(x) = \underline{\hspace{2cm}}$

9) $\lim_{x \rightarrow 1} f(x) = \underline{\hspace{2cm}}$

10) $f(3) = \underline{\hspace{2cm}}$

11) $\lim_{x \rightarrow 3^+} f(x) = \underline{\hspace{2cm}}$

12) $\lim_{x \rightarrow 3^-} f(x) = \underline{\hspace{2cm}}$

13) $\lim_{x \rightarrow 3} f(x) = \underline{\hspace{2cm}}$

14) $\lim_{x \rightarrow -4^+} f(x) = \underline{\hspace{2cm}}$

15) $\lim_{x \rightarrow \infty} f(x) = \underline{\hspace{2cm}}$

16) $f(1) = \underline{\hspace{2cm}}$

17) $\lim_{x \rightarrow -3} f(x) = \underline{\hspace{2cm}}$

18) $f(-4) = \underline{\hspace{2cm}}$

For each of the following problems, find the requested limit.

$$1) \lim_{x \rightarrow 2} 7 =$$

$$2) \lim_{x \rightarrow 5} \sqrt{x-2} =$$

$$3) \lim_{x \rightarrow -5} \frac{x^2 - 25}{x + 5} =$$

$$4) \lim_{x \rightarrow -3} \frac{x}{x + 3} =$$

$$5) \lim_{x \rightarrow \infty} \frac{3x^4 - x^3 + 5}{10 - 2x^4} =$$

$$6) \lim_{x \rightarrow \infty} \frac{3x^3 - x + 1}{5x^3 - 7x^4} =$$

$$7) \lim_{x \rightarrow 2} \frac{x^2 - x - 6}{x + 2} =$$

$$8) \lim_{x \rightarrow \infty} \frac{x^2 - x - 6}{x + 2} =$$