

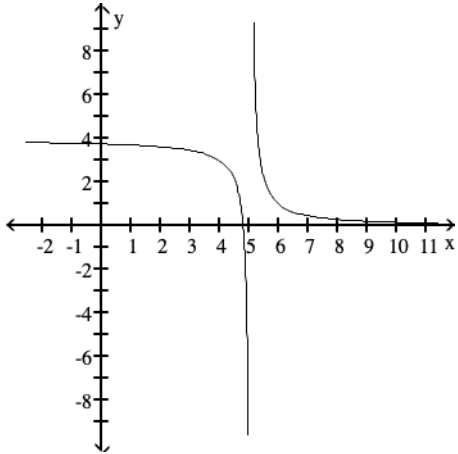
# Infinite Limits

**MULTIPLE CHOICE.** Choose the one alternative that best completes the statement or answers the question.

For the function  $f$  whose graph is given, determine the limit.

1) Find  $\lim_{x \rightarrow 5^-} f(x)$  and  $\lim_{x \rightarrow 5^+} f(x)$ .

1) \_\_\_\_\_



A) 5; 5

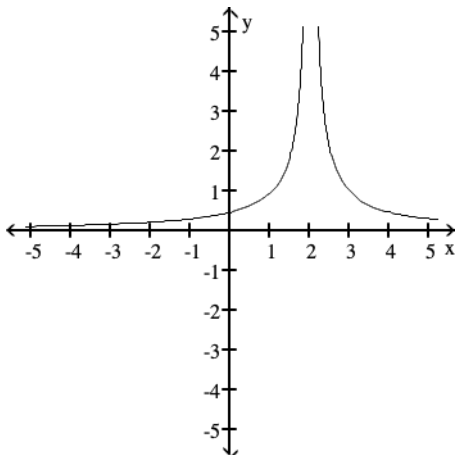
B) -5, 5

C)  $\infty, -\infty$

D)  $-\infty, \infty$

2) Find  $\lim_{x \rightarrow 2^-} f(x)$  and  $\lim_{x \rightarrow 2^+} f(x)$ .

2) \_\_\_\_\_



A)  $-\infty; \infty$

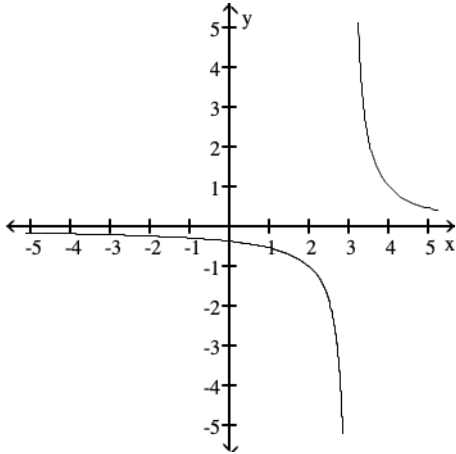
B)  $\infty; \infty$

C) 2; -2

D) 0; 1

3) Find  $\lim_{x \rightarrow 3} f(x)$ .

3) \_\_\_\_\_



A) 3

B)  $\infty$

C)  $-\infty$

D) does not exist

Find the limit.

4)  $\lim_{x \rightarrow 9^-} \frac{1}{x-9}$

4) \_\_\_\_\_

A)  $\infty$

B)  $-\infty$

C) -1

D) 0

5)  $\lim_{x \rightarrow 7^+} \frac{1}{(x-7)^2}$

5) \_\_\_\_\_

A) 0

B) -1

C)  $-\infty$

D)  $\infty$

6)  $\lim_{x \rightarrow 1^-} \frac{1}{(x-1)^2}$

6) \_\_\_\_\_

A)  $-\infty$

B) 0

C) -1

D)  $\infty$

7)  $\lim_{x \rightarrow -2} \frac{1}{x+2}$

7) \_\_\_\_\_

A) Does not exist

B)  $-\infty$

C)  $\infty$

D) 1/2

Find all vertical asymptotes of the given function.

8)  $f(x) = \frac{3x}{x+4}$

8) \_\_\_\_\_

A)  $x = 3$

B)  $x = -4$

C)  $x = 4$

D) none

9)  $f(x) = \frac{x+2}{x^2-36}$

9) \_\_\_\_\_

A)  $x = -6, x = 6$

B)  $x = 36, x = -2$

C)  $x = -6, x = 6, x = -2$

D)  $x = 0, x = 36$

## Answer Key

Testname: INFINITE LIMITS

- 1) D
- 2) B
- 3) D
- 4) B
- 5) D
- 6) D
- 7) A
- 8) B
- 9) A