

UB 1.5 (3885599)

Current Score: 0/34

Question	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	Total
Points	0/2	0/2	0/2	0/2	0/11	0/1	0/2	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/3	0/34

1. 0/2 points

LarCalc9 1.5.001. [1196725]

Consider the following function.

$$f(x) = \frac{1}{x - 7}$$

Determine whether $f(x)$ approaches ∞ or $-\infty$ as x approaches 7 from the left and from the right.

(a) $\lim_{x \rightarrow 7^-} f(x)$

(b) $\lim_{x \rightarrow 7^+} f(x)$

2. 0/2 points

LarCalc9 1.5.003. [1197156]

Consider the following function.

$$f(x) = \frac{1}{(x - 1)^2}$$

Determine whether $f(x)$ approaches ∞ or $-\infty$ as x approaches 1 from the left and from the right.

(a) $\lim_{x \rightarrow 1^-} f(x)$

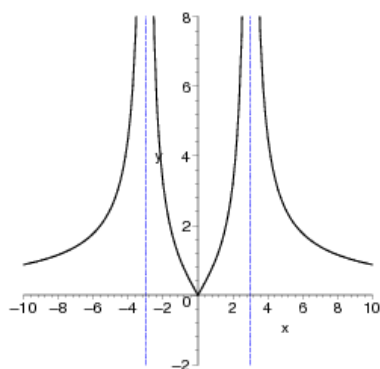
(b) $\lim_{x \rightarrow 1^+} f(x)$

3. 0/2 points

LarCalc9 1.5.005. [1337257]

Consider the following function and graph.

$$f(x) = 8 \left| \frac{x}{x^2 - 9} \right|$$

Determine whether $f(x)$ approaches ∞ or $-\infty$ as x approaches 3 from the left and from the right.

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

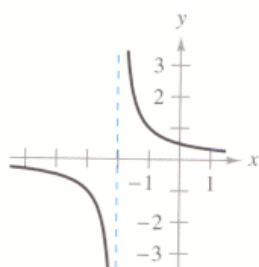
(b) $\lim_{x \rightarrow 3^+} f(x)$

4. 0/2 points

LarCalc9 1.5.006. [1197268]

Consider the following function and graph.

$$f(x) = \frac{1}{x+2}$$

Determine whether $f(x)$ approaches ∞ or $-\infty$ as x approaches -2 from the left and from the right.

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

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

5. 0/11 points

LarCalc9 1.5.009. [1197630]

Consider the following function.

$$f(x) = \frac{1}{x^2 - 25}$$

Complete the following table. (Round your answers to two decimal places.)

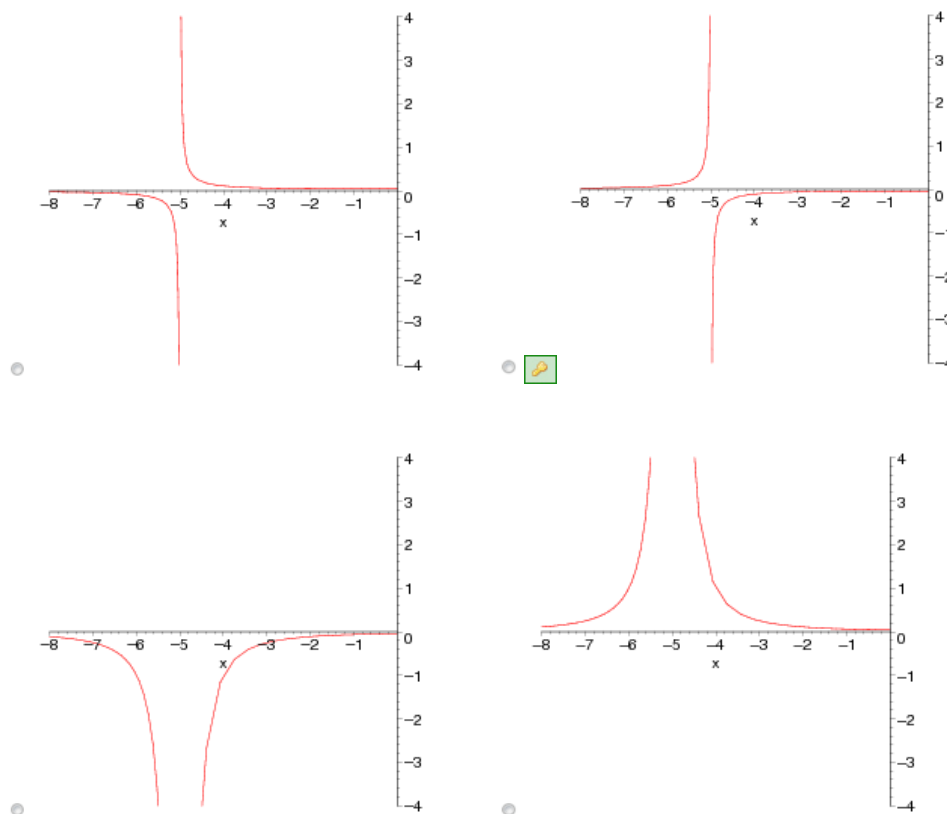
x	-5.5	-5.1	-5.01	-5.001	-4.999
f(x)	<input type="text" value="0.19"/>	<input type="text" value="0.99"/>	<input type="text" value="9.99"/>	<input type="text" value="99.99"/>	<input type="text" value="-100.01"/>

Use the table to determine whether $f(x)$ approaches ∞ or $-\infty$ as x approaches -5 from the left and from the right.

$$\lim_{x \rightarrow -5^-} f(x) = \infty$$

$$\lim_{x \rightarrow -5^+} f(x) = -\infty$$

Use a graphing utility to graph the function to confirm your answer.



6. 0/1 points

LarCalc9 1.5.013. [1196673]

Find the vertical asymptotes (if any) of the graph of the function. (Use n as an arbitrary integer if necessary. If an answer does not exist, enter DNE.)

$$f(x) = \frac{3}{x^2}$$

$$x = 0$$

7. 0/2 points

LarCalc9 1.5.020. [1416461]

Find the vertical asymptotes (if any) of the graph of the function. (Use n as an arbitrary integer if necessary. If an answer does not exist, enter DNE.)

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

$$x = 0 \quad (\text{smaller value})$$

$$x = 9 \quad (\text{larger value})$$

8. 0/1 points

LarCalc9 1.5.022. [1197475]

Find the vertical asymptotes (if any) of the graph of the function. (Use n as an arbitrary integer if necessary. If an answer does not exist, enter DNE.)

$$g(x) = \frac{\frac{1}{2}x^3 - 3x^2 + 4x}{7x^2 - 42x + 56}$$

$$DNE$$

9. 0/1 points

LarCalc9 1.5.028.MI. [1700217]

Find the vertical asymptotes (if any) of the graph of the function. (Use n as an arbitrary integer if necessary. If an answer does not exist, enter DNE.)

$$h(t) = \frac{t^2 - 4t}{t^4 - 256}$$

$$t = -4$$

10. 0/1 points

LarCalc9 1.5.029. [1196701]

Find the vertical asymptotes (if any) of the graph of the function. (Use n as an arbitrary integer if necessary. If an answer does not exist, enter DNE.)

$$f(x) = 7 \tan(\pi x)$$

$$x = \frac{1}{2} + n$$

11. 0/1 points

LarCalc9 1.5.031. [1197793]

Find the vertical asymptotes (if any) of the graph of the function. (Use n as an arbitrary nonzero integer if necessary. If an answer does not exist, enter DNE.)

$$s(t) = \frac{6t}{\sin(t)}$$

$$t = n \cdot \pi$$

12. 0/1 points

LarCalc9 1.5.033. [1089584]

Determine whether the graph of the function has a vertical asymptote or a removable discontinuity at $x = -9$. Graph the function using a graphing utility to confirm your answer.

$$f(x) = \frac{x^2 - 81}{x + 9}$$

- vertical asymptote
- removable discontinuity

13. 0/1 points

LarCalc9 1.5.037. [1531967]

Find the limit (if it exists). (If the limit does not exist, enter DNE.)

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

14. 0/1 points

LarCalc9 1.5.042. [1089600]

Find the limit (if it exists). (If the limit does not exist, enter DNE.)

$$\lim_{x \rightarrow 9^-} \frac{x^2}{x^2 + 16}$$

15. 0/1 points

LarCalc9 1.5.048. [1531636]

Find the limit (if it exists). (If the limit does not exist, enter DNE.)

$$\lim_{x \rightarrow 0^-} \left(x^2 - \frac{8}{x} \right)$$

16. 0/1 points

LarCalc9 1.5.057. [1868183]

Use a graphing utility to graph the function and determine the one-sided limit.

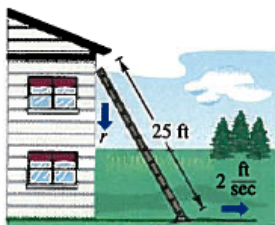
$$f(x) = \frac{1}{x^2 - 64}$$

$$\lim_{x \rightarrow 8^-} f(x)$$

17. 0/3 points

LarCalc9 1.5.068. [1197434]

A 25-foot ladder is leaning against a house, as shown in the figure below.



If the base of the ladder is pulled away from the house at a rate of 2 feet per second, the top will move down the wall at a rate given by the following equation, where x is the distance between the base of the ladder and the house.

$$r = \frac{2x}{\sqrt{625 - x^2}} \text{ ft/sec}$$

(a) Find the rate r when x is 15 feet.

 3/2

(b) Find the rate r when x is 24 feet.

 48/7

(c) Find the limit of r as $x \rightarrow 25^-$.

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Assignment Details

Name (AID): UB 1.5 (3885599)

Submissions Allowed: 5

Category: Homework

Code:

Locked: No

Author: Goldsworthy, William (bgoldsworthy@soroschool.org)

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