UB 1.3 (3885610)

Current Score: 0/40

Question	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	**Total**
Points	0/1	0/1	0/1	0/1	0/3	0/1	0/1	0/4	0/4	0/3	0/3	0/2	0/1	0/4	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	**0/40**

1. 0/1 points LarCalc9 1.3.005. [1083789]

Find the limit.

$$\lim_{x \to -5} x^3$$

-125

2. 0/1 points LarCalc9 1.3.013. [1083814]

Find the limit.

$$\lim_{x \to 0} \sqrt{x+1}$$

1

3. 0/1 points LarCalc9 1.3.014. [1083792]

Find the limit.

$$\lim_{x \to 84} \sqrt[3]{x+41}$$

5

4. 0/1 points LarCalc9 1.3.017. [1083793]

Find the limit.

$$\lim_{x \to 8} \frac{1}{x}$$

1/8

5. 0/3 points LarCalc9 1.3.024. [1245536]

Find the limits.

$f(x) = x + 1 \quad g(x) = x^2$

(a) $\lim_{x \to 1} f(x) =$ 2

(b) $\lim_{x \to 5} g(x) =$ 25

(c) $\lim_{x \to 1} g(f(x)) =$ 4

6. 0/1 points LarCalc9 1.3.028. [1083796]

Find the limit of the trigonometric function.

$$\lim_{x \to 0} 5 \tan(x)$$

0

7. 0/1 points LarCalc9 1.3.032. [1083811]

Find the limit of the trigonometric function.

$$\lim_{x \to \pi} \cos(6x)$$

1

8. 0/4 points LarCalc9 1.3.038. [1083770]

Consider the following information.

$$\lim_{x \to c} f(x) = \frac{8}{7}$$

$$\lim_{x \to c} g(x) = \frac{6}{7}$$

Use the information to evaluate the limits.

(a) $\lim_{x \to c}[4f(x)]$

32/7

(b) $\lim_{x \to c}[f(x) + g(x)]$

2

(c) $\lim_{x \to c}[f(x)\,g(x)]$

48/49

(d) $\lim_{x \to c} \frac{f(x)}{g(x)}$

4/3

9. 0/4 points LarCalc9 1.3.040. [1241224]

Consider the following information.

$\lim_{x \to c} f(x) = 64$

Use the information to evaluate the limits.

(a) $\lim_{x \to c} \sqrt[3]{f(x)}$

4

(b) $\lim_{x \to c} \frac{f(x)}{48}$

4/3

(c) $\lim_{x \to c} [f(x)]^2$

4096

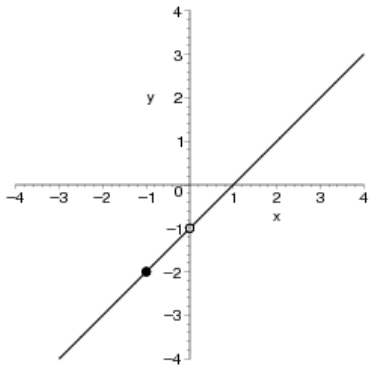
(d) $\lim_{x \to c} [f(x)]^{2/3}$

16

10. 0/3 points LarCalc9 1.3.041. [1196903]

Consider the following function and its graph.

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



Use the graph to determine the limit visually (if it exists). (If an answer does not exist, enter DNE.)

(a) $\lim_{x \to 0} g(x)$

-1

(b) $\lim_{x \to -1} g(x)$

-2

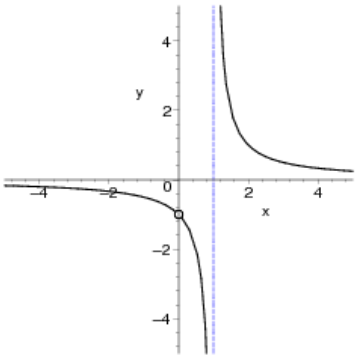
Write a simpler function that agrees with the given function at all but one point.

$g_2(x) =$ $x - 1$

11. 0/3 points LarCalc9 1.3.044. [1245538]

Consider the following function and its graph.

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



Use the graph to determine the limit visually (if it exists). (If an answer does not exist, enter DNE.)

(a) $\lim_{x \to 1} f(x)$

DNE

(b) $\lim_{x \to 0} f(x)$

-1

Write a simpler function that agrees with the given function at all but one point.

$g(x) =$ $\frac{1}{x - 1}$

12. 0/2 points LarCalc9 1.3.046. [1245686]

Consider the following.

$$\lim_{x \to -1} \frac{2x^2 - 6x - 8}{x + 1}$$

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

-10

Write a simpler function that agrees with the given function at all but one point.

$g(x) =$ $2x - 8$

13. 0/1 points LarCalc9 1.3.049. [1083771]

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

$$\lim_{x \to 0} \frac{x}{x^2 - 7x}$$

-1/7

14. 0/4 points LarCalc9 1.3.051. [1083756]

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

$$\lim_{x \to 6} \frac{x - 6}{x^2 - 36}$$

STEP 1: Factor the denominator.

$$\lim_{x \to 6} \frac{x - 6}{(x + \square\ 6)(x - \square\ 6)}$$

STEP 2: Simplify.

$$\lim_{x \to 6} \frac{1}{x + \square\ 6}$$

STEP 3: Use your result from Step 2 to find the limit.

$$\lim_{x \to 6} \frac{x - 6}{x^2 - 36} = \square\ 1/12$$

15. 0/1 points LarCalc9 1.3.052.MI. [1242773]

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

$$\lim_{x \to 9} \frac{9 - x}{x^2 - 81}$$

$\square$ -1/18

16. 0/1 points LarCalc9 1.3.053. [1083791]

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

$$\lim_{t \to 5} \frac{t^2 + 2t - 35}{t^2 - 25}$$

$\square$ 6/5

17. 0/1 points LarCalc9 1.3.056. [1083799]

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

$$\lim_{x \to 3} \frac{\sqrt{x + 1} - 2}{x - 3}$$

$\square$ 1/4

18. 0/1 points LarCalc9 1.3.061. [1241197]

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

$$\lim_{\Delta x \to 0} \frac{6(x + \Delta x) - 6x}{\Delta x}$$

$\square$ 6

19. 0/1 points LarCalc9 1.3.063. [1196882]

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

$$\lim_{\Delta t \to 0} \frac{(t+\Delta t)^2 - 9(t+\Delta t) + 5 - (t^2 - 9t + 5)}{\Delta t}$$

$2t - 9$

20. 0/1 points LarCalc9 1.3.068. [1083804]

Determine the limit of the trigonometric function (if it exists). (If an answer does not exist, enter DNE.)

$$\lim_{\theta \to 0} \frac{\cos(5\,\theta)\tan(5\,\theta)}{\theta}$$

5

21. 0/1 points LarCalc9 1.3.077. [1196602]

Use a graphing utility to graph the function and estimate the limit. Use a table to reinforce your conclusion. Then find the limit by analytic methods. (You may round your answer to three decimal places.)

$$\lim_{x \to 0} \frac{\sqrt{x+3} - \sqrt{3}}{x}$$

$\frac{1}{6} \cdot 3^{\frac{1}{2}}$

22. 0/1 points LarCalc9 1.3.085. [1197091]

Consider the following function.

$f(x) = 9x + 7$

Find the limit.

$$\lim_{\Delta x \to 0} \frac{f(x+\Delta x) - f(x)}{\Delta x}$$

9

23. 0/1 points LarCalc9 1.3.088.MI. [1385853]

Consider the following function.

$f(x) = 4x^2 - 6x$

Find the limit.

$$\lim_{\Delta x \to 0} \frac{f(x+\Delta x) - f(x)}{\Delta x}$$

$8x - 6$

24. 0/1 points LarCalc9 1.3.103. [1083758]

Use the position function $s(t) = -16t^2 + 500$, which gives the height (in feet) of an object that has fallen for t seconds from a height of 500 feet. The velocity at time $t = a$ seconds is given by the following.

$$\lim_{t \to a} \frac{s(a) - s(t)}{a - t}$$

If a construction worker drops a wrench from a height of 500 feet, how fast will the wrench be falling after 1 second?

[ ] -32 ft/s

Assignment Details

Name (AID): **UB 1.3 (3885610)**
Submissions Allowed: **5**
Category: **Homework**
Code:
Locked: **No**
Author: **Goldsworthy, William (** bgoldsworthy@soroschool.org **)**
Last Saved: **Jun 25, 2013 07:35 PM EDT**
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