

2.3 Hmwk - Calculating Limits Using Limit Laws (Homework)

 INSTRUCTOR

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Past Due **Due Date: FRI, FEB 6, 2026 11:59 PM CST**

Current Score: 20 / 20 POINTS | 100.0 %

Due date has passed. No changes can be made without an approved extension request.
You may not be granted an extension if you have already viewed the answer key.

 **VIEW ANSWER KEY**

Scoring and Assignment Information ^

QUESTION	1	2	3	4	5	6	7	8	9	10
POINTS	3 / 3	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	6 / 6	4 / 4	1 / 1	1 / 1

Assignment Submission

For this assignment, you submit answers by question parts. The number of submissions remaining for each question part only changes if you submit or change the answer.

Assignment Scoring

Your best submission for each question part is used for your score.

1. [3 / 3 Points]

DETAILS

MY NOTES

PREVIOUS ANSWERS

ASK YOUR TEACHER


PRACTICE ANOTHER


SCalcET9 2.3.001.


Given that


$$\lim_{x \rightarrow 2} f(x) = 1 \quad \lim_{x \rightarrow 2} g(x) = -5 \quad \lim_{x \rightarrow 2} h(x) = 0,$$


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


(a) $\lim_{x \rightarrow 2} [f(x) + 2g(x)]$
  Well done.

(b) $\lim_{x \rightarrow 2} [g(x)]^3$
  Good!

(c) $\lim_{x \rightarrow 2} \sqrt{f(x)}$
  Nice work.

(d) $\lim_{x \rightarrow 2} \frac{5f(x)}{g(x)}$
  That's right!

(e) $\lim_{x \rightarrow 2} \frac{g(x)}{h(x)}$
  Way to go!

(f) $\lim_{x \rightarrow 2} \frac{g(x)h(x)}{f(x)}$
  Nice!

Resources

[Read It Watch It](#)

2. [1 / 1 Points]

DETAILS

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ASK YOUR TEACHER

PRACTICE ANOTHER

SCalcET9 2.3.022.

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

$$\lim_{x \rightarrow 16} \frac{16 - x}{4 - \sqrt{x}}$$

\$\$\$

✓ Fantastic work!

Resources

[Read It](#)

3. [1 / 1 Points]

DETAILS

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PRACTICE ANOTHER

SCalcET9 2.3.032.

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

$$\lim_{x \rightarrow -12} \frac{\sqrt{x^2 + 25} - 13}{x + 12}$$

\$\$-1213

✓ Awesome!

Resources

[Read It](#)

4. [1 / 1 Points]

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PRACTICE ANOTHER

SCalcET9 2.3.028.

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

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

\$\$\$

✓ Great job!

Resources

[Read It Watch It](#)

5. [1 / 1 Points]

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PRACTICE ANOTHER

SCalcET9 2.3.024.

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

$$\lim_{x \rightarrow 2} \frac{2 - x}{\sqrt{x + 2} - 2}$$

\$\$-4

✓ Awesome!

Resources

[Read It](#)

6. [1 / 1 Points]

DETAILS

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ASK YOUR TEACHER

PRACTICE ANOTHER

SCalcET9 2.3.027.

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

$$\lim_{t \rightarrow 0} \frac{\sqrt{2+t} - \sqrt{2-t}}{t}$$

✓✓✓22

✓ Perfect!

Resources

[Read It](#)

7. [6 / 6 Points]

DETAILS

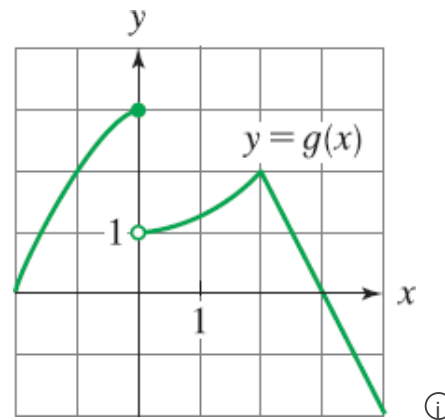
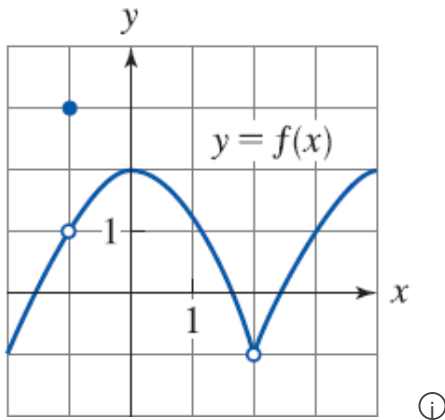
MY NOTES

PREVIOUS ANSWERS

ASK YOUR TEACHER

PRACTICE ANOTHER

SCalcET9 2.3.002.

The graphs of f and g are given. Use them to evaluate each limit, if it exists. (If an answer does not exist, enter DNE.)

(a) $\lim_{x \rightarrow 2} [f(x) + g(x)]$

 ✓ Perfect!

(b) $\lim_{x \rightarrow 0} [f(x) - g(x)]$

 ✓ Perfect!

(c) $\lim_{x \rightarrow -1} [f(x)g(x)]$

 ✓ Nice work!

(d) $\lim_{x \rightarrow 3} \frac{f(x)}{g(x)}$

 ✓ Amazing work!

(e) $\lim_{x \rightarrow 2} [x^2 f(x)]$

 ✓ Amazing job.

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

 ✓ Fantastic!

Resources

[Read It](#)

8. [4 / 4 Points]

DETAILS

MY NOTES

PREVIOUS ANSWERS

ASK YOUR TEACHER

PRACTICE ANOTHER

S CalcET9 2.3.051.

$$\text{Let } g(x) = \frac{x^2 + x - 2}{|x - 1|}.$$

(a) Find the following limits. (If an answer does not exist, enter DNE.)

(i) $\lim_{x \rightarrow 1^+} g(x)$

✓ Good job!

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

✓ Awesome!

(b) Does $\lim_{x \rightarrow 1} g(x)$ exist?

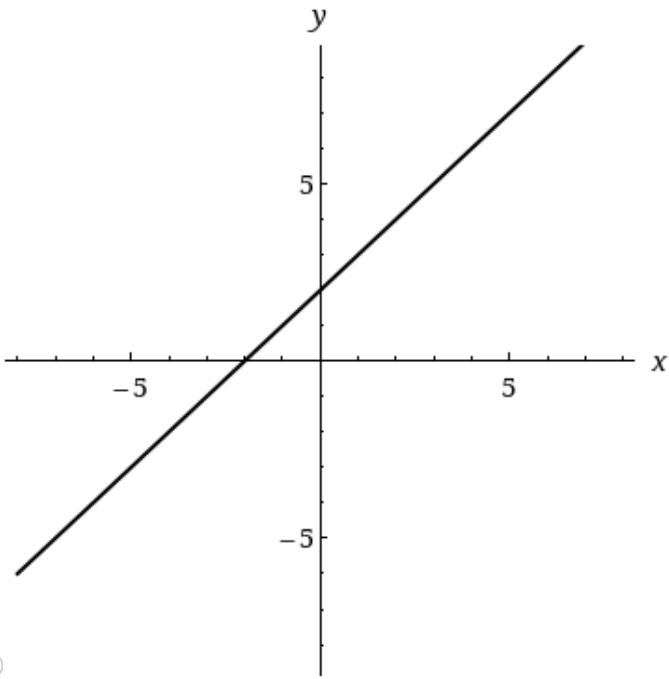
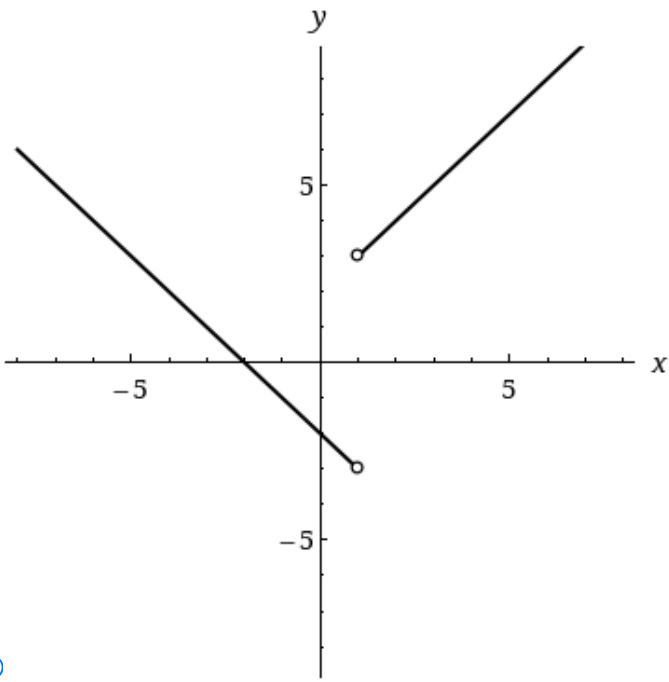
Yes

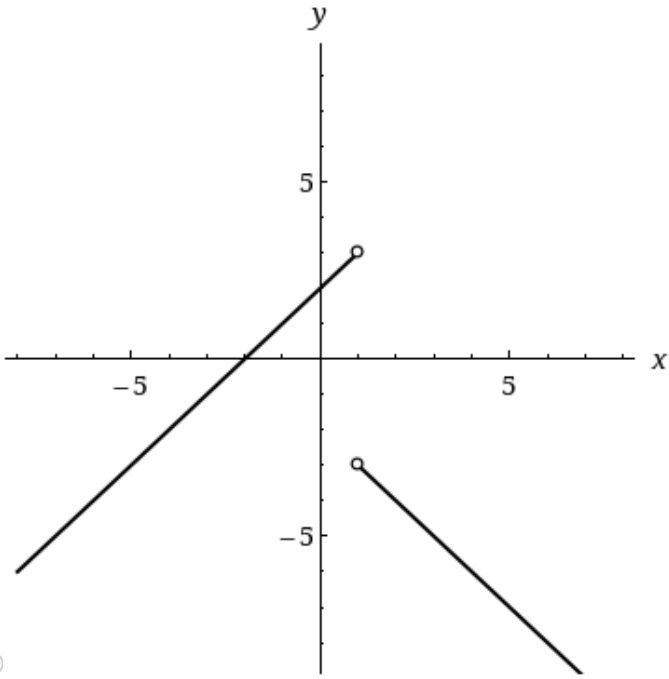
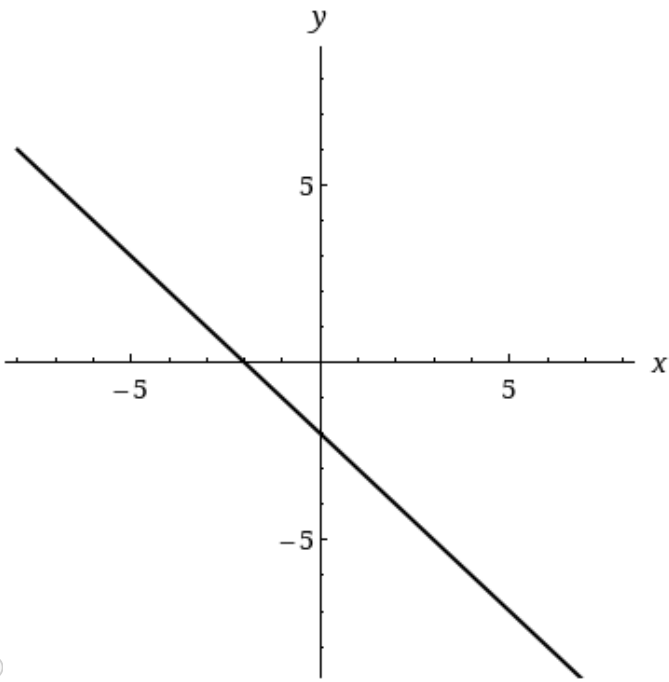
No



Well done!

(c) Sketch the graph of g .





✓ Terrific!

Resources

[Read It Watch It](#)

9. [1 / 1 Points]

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ASK YOUR TEACHER

PRACTICE ANOTHER

S CalcET9 2.3.039.MI.

If $3x - 2 \leq f(x) \leq x^2 - 3x + 7$ for $x \geq 0$, find $\lim_{x \rightarrow 3} f(x)$.

7 ✓ Amazing job.

Resources

[Read It Watch It Tutorial](#)

10. [1 / 1 Points]

DETAILS

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ASK YOUR TEACHER

PRACTICE ANOTHER

S CalcET9 2.3.031.

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

$$\lim_{t \rightarrow 0} \left(\frac{3}{t\sqrt{1+t}} - \frac{3}{t} \right)$$

\$\$-32

✓ Nicely done!

Resources

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