4.1 Hmwk - Maximum and Minimum Values (Homework)

INSTRUCTOR
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Past Due **Due Date:** SAT, APR 18, 2026 11:59 PM CDT

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	11	12	13
POINTS	2 / 2	1 / 1	1 / 1	4 / 4	1 / 1	2 / 2	2 / 2	1 / 1	2 / 2	1 / 1	1 / 1	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

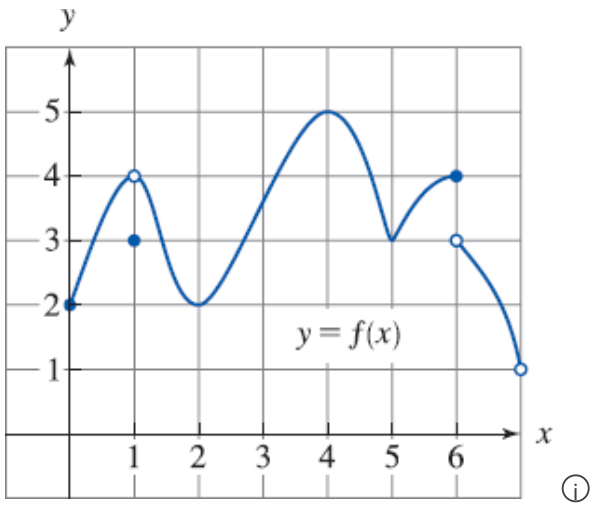
Your best submission for each question part is used for your score.

1. **[2 / 2 Points]**

DETAILS | MY NOTES | PREVIOUS ANSWERS | ASK YOUR TEACHER | PRACTICE ANOTHER

SCalcET9 4.1.005.

Use the graph to state the absolute and local maximum and minimum values of the function. (Assume each point lies on the gridlines. Enter your answers as a comma-separated list. If an answer does not exist, enter DNE.)



absolute maximum value $$5

✔ Awesome job!

absolute minimum value $$*DNE*

✔ Nice!

local maximum value(s) $$4, 5

✔ Nice work!

local minimum value(s) $$2, 3

✔ Perfect!

Resources

Read It Watch It

2. **[1 / 1 Points]**

DETAILS | MY NOTES | PREVIOUS ANSWERS | ASK YOUR TEACHER

PRACTICE ANOTHER

SCalcET9 4.1.066.

Find the absolute maximum and absolute minimum values of f on the given interval.

$$f(x) = x - 2\tan^{-1}(x), \quad [0, 6]$$

absolute minimum value $$1−π2

That's right!

absolute maximum value $$6−2tan−1(6)

Amazing work!

Resources

Read It

3. **[1 / 1 Points]**

DETAILS | MY NOTES | PREVIOUS ANSWERS | ASK YOUR TEACHER

PRACTICE ANOTHER

SCalcET9 4.1.063.

Find the absolute maximum and absolute minimum values of f on the given interval.

$$f(x) = x^{-2} \ln(x), \quad \left[\frac{1}{2}, 6\right]$$

absolute minimum value $$-4\ln(2)$$

✔ Fantastic!

absolute maximum value $$12e$$

✔ Good work.

Resources

Read It

4. **[4 / 4 Points]**

DETAILS | MY NOTES | PREVIOUS ANSWERS | ASK YOUR TEACHER | PRACTICE ANOTHER

SCalcET9 4.1.059.EP.

Consider the following function on the given interval.

$$f(t) = t - \sqrt[3]{t}, \quad [-1, 6]$$

Find the derivative of the function.

$f'(t)$ =

$$1-13t2/3

✔ Fantastic work!

Find any critical numbers of the function. (Enter your answers as a comma-separated list. If an answer does not exist, enter DNE.)

t =

$$0,13√3,−13√3

✔ Terrific!

Find the absolute maximum and absolute minimum values of f on the given interval.

absolute minimum value $$−23√3

✔ Amazing job.

absolute maximum value $$6−\sqrt[3]{6}

✔ Awesome!

Resources

Read It Watch It

5. **[1 / 1 Points]**

DETAILS | MY NOTES | PREVIOUS ANSWERS | ASK YOUR TEACHER

PRACTICE ANOTHER

SCalcET9 4.1.047.

Find the critical numbers of the function. (Enter your answers as a comma-separated list. If an answer does not exist, enter DNE.)

$$g(x) = x^2 \ln(x)$$

$x =$

$$e^{-1/2}$$

That's it!

Resources

Read It

6. **[2 / 2 Points]**

DETAILS | MY NOTES | PREVIOUS ANSWERS | ASK YOUR TEACHER

PRACTICE ANOTHER

SCalcET9 4.1.041.EP.

Consider the following function.

$$F(x) = x^{4/5}(x - 6)^2$$

Find the derivative of the function.

$F'(x)$ =

$$2(x-6)(7x-12)5x1/5

✔ Nicely done!

Find the values of x such that $F'(x) = 0$. (Enter your answers as a comma-separated list. If an answer does not exist, enter DNE.)

x =

$$127,6

✔ Great job.

Find the values of x in the domain F such that $F'(x)$ does not exist. (Enter your answers as a comma-separated list. If an answer does not exist, enter DNE.)

x =

$$0

✔ Fantastic!

Find the critical numbers of the function. (Enter your answers as a comma-separated list. If an answer does not exist, enter DNE.)

x =

$$0,127,6

✔ Great job.

Resources

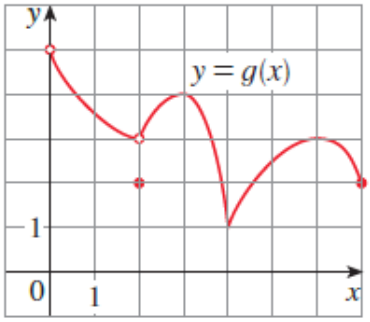
Read It Watch It

7. **[2 / 2 Points]**

DETAILS | MY NOTES | PREVIOUS ANSWERS | ASK YOUR TEACHER | PRACTICE ANOTHER

SCalcET9 4.1.006.

Use the graph to state the absolute and local maximum and minimum values of the function. (Assume each point lies on the gridlines. Enter your answers as a comma-separated list. If an answer does not exist, enter DNE.)



absolute maximum value $$*DNE*

✔ Awesome job!

absolute minimum value $$1

✔ Nice job.

local maximum value(s) $$4,3

✔ Great job.

local minimum value(s) $$1, 2

✔ Terrific!

Resources

Read It

8. **[1 / 1 Points]**

DETAILS | MY NOTES | PREVIOUS ANSWERS | ASK YOUR TEACHER

PRACTICE ANOTHER

SCalcET9 4.1.044.

Find the critical numbers of the function. (Enter your answers as a comma-separated list. Use n to denote any arbitrary integer values. If an answer does not exist, enter DNE.)

$$f(\theta) = \theta - \sqrt{2}\sin(\theta)$$

$\theta =$

$$2n\pi+\pi4,2n\pi+7\pi4$$

Excellent job!

Resources

Read It

9. **[2 / 2 Points]**

DETAILS | MY NOTES | PREVIOUS ANSWERS | ASK YOUR TEACHER

PRACTICE ANOTHER

SCalcET9 4.1.042.EP.

Consider the following function.

$$h(x) = x^{-1/3}(x - 14)$$

Find the derivative of the function.

$h'(x)$ =

$$2(x+7)3x4/3

✔ Impressive work!

Find the values of x such that $h'(x) = 0$. (Enter your answers as a comma-separated list. If an answer does not exist, enter DNE.)

x =

$$−7

✔ Perfect!

Find the values of x in the domain of h such that $h'(x)$ does not exist. (Enter your answers as a comma-separated list. If an answer does not exist, enter DNE.)

x =

$$DNE

✔ Great!

Find the critical numbers of the function. (Enter your answers as a comma-separated list. If an answer does not exist, enter DNE.)

x =

$$−7

✔ Fantastic job!

Resources

Read It

10. **[1 / 1 Points]**

DETAILS | MY NOTES | PREVIOUS ANSWERS | ASK YOUR TEACHER | PRACTICE ANOTHER

SCalcET9 4.1.046.

Find the critical numbers of the function. (Enter your answers as a comma-separated list. If an answer does not exist, enter DNE.)

$$p(t) = te^{5t}$$

$t =$
$$-15

✔ Good work!

Resources

Read It

11. **[1 / 1 Points]**

DETAILS | MY NOTES | PREVIOUS ANSWERS | ASK YOUR TEACHER | PRACTICE ANOTHER

SCalcET9 4.1.065.

Find the absolute maximum and absolute minimum values of f on the given interval.

$$f(x) = \ln(x^2 + 5x + 10), \quad [-3, 1]$$

absolute minimum value $/ln(154)

✔ Well done.

absolute maximum value $/ln(16)

✔ Excellent job!

Resources

Read It

12. **[1 / 1 Points]**

DETAILS | MY NOTES | PREVIOUS ANSWERS | ASK YOUR TEACHER | PRACTICE ANOTHER

SCalcET9 4.1.036.

Find the critical numbers of the function. (Enter your answers as a comma-separated list. If an answer does not exist, enter DNE.)

$$h(p) = \frac{p - 4}{p^2 + 1}$$

$p =$
$$4-\sqrt{17},4+\sqrt{17}$$

✔ Good work.

Resources

Read It

13. **[1 / 1 Points]**

DETAILS | MY NOTES | PREVIOUS ANSWERS | ASK YOUR TEACHER | PRACTICE ANOTHER

SCalcET9 4.1.032.

Find the critical numbers of the function. (Enter your answers as a comma-separated list. If an answer does not exist, enter DNE.)

$$f(x) = 2x^3 + x^2 + 2x$$

$x =$
$$DNE

✔ Great work.

Resources

Read It