← MAT2601_ONL8FA_ONL8F_21 - Calculus, Fall 2021

Week 5 Homework MAT2601 (Homework)

INSTRUCTOR
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SOUTH COLLEGE

Current Score

QUESTION	1	2	3	4	5	6	7	8	9	10	11	12	13
POINTS	–/6.25	–/6.25	–/6.25	–/6.25	–/6.25	–/6.25	–/6.25	–/6.25	–/6.25	–/6.25	–/6.25	–/6.25	–/6.25

TOTAL SCORE

–/100	0.0%

Due Date

TUE, NOV 2, 2021
11:59 PM EDT

Request Extension

Assignment Submission & Scoring

Assignment Submission

For this assignment, you submit answers by questions. You are required to use a new randomization after every 3 question submissions.

Assignment Scoring

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

1. **[-/6.25 Points]** DETAILS **HARMATHAP12 11.1.001.** 0/15 Submissions Used

MY NOTES ASK YOUR TEACHER

Find the derivative of the function.

$f(x) = 16 \ln(x)$

Need Help? Read It Watch It

2. **[-/6.25 Points]** DETAILS **HARMATHAP12 11.1.003.** 0/15 Submissions Used

MY NOTES ASK YOUR TEACHER

Find the derivative of the function.

$y = \ln(10x)$

Need Help? Read It

3. **[-/6.25 Points]** DETAILS **HARMATHAP12 11.1.009.** 0/15 Submissions Used

MY NOTES ASK YOUR TEACHER

Find the derivative of the function.

$y = \ln(4x^2 - x) + 7x$

Need Help? Read It Watch It

4. **[-/6.25 Points]** DETAILS **HARMATHAP12 11.1.013.** 0/15 Submissions Used

MY NOTES ASK YOUR TEACHER

(a) Find the derivative.

$$y = \ln(x) - \ln(x - 3)$$

$\frac{dy}{dx} =$

(b) Find the derivative.

$$y = \ln\left(\frac{x}{x - 3}\right)$$

$\frac{dy}{dx} =$

State whether the function in part (b) is the same function as that in part (a).

- ○ The function in part (b) is the same function as that in part (a).
- ○ The function in part (b) is not the same function as that in part (a).

Need Help? Read It

5. **[-/6.25 Points]** DETAILS **HARMATHAP12 11.1.021.** 0/15 Submissions Used

MY NOTES ASK YOUR TEACHER

Find $\frac{dy}{dt}$ if $y = \ln\left(\frac{t^2 + 1}{\sqrt{9 - t}}\right)$.

$\frac{dy}{dt} =$

Need Help? Read It Watch It

6. [-/6.25 Points] DETAILS HARMATHAP12 11.1.031. 0/15 Submissions Used

MY NOTES ASK YOUR TEACHER

Find y'.

$$y = (\ln(x))^4$$

$y' =$

Need Help? Read It

7. [-/6.25 Points] DETAILS HARMATHAP12 11.2.001. 0/15 Submissions Used

MY NOTES ASK YOUR TEACHER

Find the derivative of the function.

$$y = 3e^x - 8x$$

Need Help? Read It Watch It

8. [-/6.25 Points] DETAILS HARMATHAP12 11.2.003. 0/15 Submissions Used

MY NOTES ASK YOUR TEACHER

Find the derivative of the function.

$$f(x) = e^x - x^e$$

Need Help? Read It

9. [-/6.25 Points] DETAILS HARMATHAP12 11.2.007.MI. 0/15 Submissions Used

MY NOTES ASK YOUR TEACHER

Find the derivative of the function.

$y = e^{x^7}$

Need Help? Read It Watch It Master It

10. [-/6.25 Points] DETAILS HARMATHAP12 11.2.011. 0/15 Submissions Used

MY NOTES ASK YOUR TEACHER

Find the derivative of the function.

$y = 3e^{(x^2 + 1)^3}$

Need Help? Read It

11. [-/6.25 Points] DETAILS HARMATHAP12 11.2.016. 0/15 Submissions Used

MY NOTES ASK YOUR TEACHER

Find the derivative of the function.

$y = 2e^{\sqrt{x}}$

Need Help? Read It

12. **[-/6.25 Points]** DETAILS **HARMATHAP12 11.2.023.** 0/15 Submissions Used

MY NOTES ASK YOUR TEACHER

Find the derivative of the function.

$y = \ln(e^{5x} + 7)$

Need Help? Read It

13. **[-/6.25 Points]** DETAILS **HARMATHAP12 11.3.006.** 0/15 Submissions Used

MY NOTES ASK YOUR TEACHER

Find dy/dx at the given point without first solving for y.

$x^2 + 4xy + 7 = 0$ at $(1, -2)$

$\frac{dy}{dx} =$ ☐

Need Help? Read It Watch It

14. **[-/6.25 Points]** DETAILS **HARMATHAP12 11.3.013.** 0/15 Submissions Used

MY NOTES ASK YOUR TEACHER

If $xy^2 - y^3 = 6$, find y'.

$y' =$

Need Help? Read It

15. [-/6.25 Points] DETAILS HARMATHAP12 11.3.017. 0/15 Submissions Used

MY NOTES ASK YOUR TEACHER

If $3x^4 - 4y^3 = 4x^2 + 3y^4$, find dy/dx.

$\frac{dy}{dx} =$

Need Help? Read It

16. [-/6.25 Points] DETAILS HARMATHAP12 11.3.024. 0/15 Submissions Used

MY NOTES ASK YOUR TEACHER

Find the slope of the tangent to the curve. (If an answer is undefined, enter UNDEFINED.)

$2x^2 - 10x + 2y^3 + 28 = 0$ at $(2, -2)$

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