4.9 Hmwk - Antiderivatives (Homework)

INSTRUCTOR
Francis Adjei
Texas A&M University at Galveston

Due Date: MON, APR 20, 2026 11:59 PM CDT

Current Score: – / 20 POINTS | 0.0 %

Scoring and Assignment Information

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

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. **[– / 1 Points]** DETAILS MY NOTES ASK YOUR TEACHER PRACTICE ANOTHER

SCalcET9 4.9.011.

Find the most general antiderivative of the function. (Check your answer by differentiation. Remember the constant of the antiderivative.)

$$g(x) = 9x^{-2/3} - 2x^{5/3}$$

$G(x) =$

Resources

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2. **[– / 1 Points]** DETAILS MY NOTES ASK YOUR TEACHER PRACTICE ANOTHER

SCalcET9 4.9.018.

Find the most general antiderivative of the function. (Check your answer by differentiation. Remember the constant of the antiderivative.)

$$f(x) = \frac{5x^2 - 3x + 9}{x^2}, \quad x > 0$$

$F(x) =$

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3. **[– / 2 Points]** DETAILS MY NOTES ASK YOUR TEACHER PRACTICE ANOTHER

SCalcET9 4.9.037.

Find f.

$$f'(x) = 20x^3 + \frac{1}{x}, \quad x > 0, \quad f(1) = 14$$

$f(x) =$

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4. **[– / 3 Points]** DETAILS MY NOTES ASK YOUR TEACHER PRACTICE ANOTHER

SCalcET9 4.9.036.EP.

Consider the following function.

$$f'''(t) = \sqrt{t} - 5\cos(t)$$

Find $f''(t)$. (Use C for the constant of the first antiderivative.)

$f''(t) =$

Find $f'(t)$. (Use D for the constant of the second antiderivative.)

$f'(t) =$

Find f. (Use F for the constant of the third antiderivative.)

$f(t) =$

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5. **[– / 2 Points]** DETAILS MY NOTES ASK YOUR TEACHER PRACTICE ANOTHER

SCalcET9 4.9.027.

Find the antiderivative F of f that satisfies the given condition. Check your answer by comparing the graphs of f and F.

$f(x) = 2e^x - 8x, \quad F(0) = 6$

$F(x) =$

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6. **[– / 2 Points]** DETAILS MY NOTES ASK YOUR TEACHER PRACTICE ANOTHER

SCalcET9 4.9.028.

Find the antiderivative F of f that satisfies the given condition. Check your answer by comparing the graphs of f and F.

$f(x) = 7 - 3(1 + x^2)^{-1}, \quad F(1) = 0$

$F(x) =$

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7. **[– / 2 Points]** DETAILS MY NOTES ASK YOUR TEACHER PRACTICE ANOTHER

SCalcET9 4.9.015.

Find the most general antiderivative of the function. (Check your answer by differentiation. Remember the constant of the antiderivative.)

$$f(t) = \frac{2t - 4 + 5\sqrt{t}}{\sqrt{t}}$$

$F(t) =$

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8. **[– / 1 Points]** DETAILS MY NOTES ASK YOUR TEACHER PRACTICE ANOTHER

SCalcET9 4.9.054.

Find f.

$$f'''(x) = \cos(x), \quad f(0) = 5, \quad f'(0) = 6, \quad f''(0) = 3$$

$f(x) =$

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9. **[– / 3 Points]** DETAILS MY NOTES ASK YOUR TEACHER PRACTICE ANOTHER

SCalcET9 4.9.053.

Find f.

$$f''(x) = x^{-2}, \quad x > 0, \quad f(1) = 0, \quad f(4) = 0$$

$f(x) =$

Resources

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10. **[– / 3 Points]** DETAILS MY NOTES ASK YOUR TEACHER PRACTICE ANOTHER

SCalcET9 4.9.051.

Find f.

$$f''(x) = 5e^x - 4\sin(x), \quad f(0) = 3, \quad f\left(\frac{\pi}{2}\right) = 0$$

$f(x) =$

Resources

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