

Question

1 2 3 4 5 6 7 8 9

Instructions

Name _____

Section _____

1. Question Details

SCalc8 4.3.007. [3395157]

Use Part 1 of the [Fundamental Theorem of Calculus](#) to find the derivative of the function.

$$g(x) = \int_0^x \sqrt{t + t^3} dt$$

$$g'(x) = \text{[input box]}$$

2. Question Details

SCalc8 4.3.011. [3353799]

Use Part 1 of the [Fundamental Theorem of Calculus](#) to find the derivative of the function.

$$F(x) = \int_x^0 \sqrt{5 + \sec(8t)} dt \quad \left[\text{Hint: } \int_x^0 \sqrt{5 + \sec(8t)} dt = - \int_0^x \sqrt{5 + \sec(8t)} dt \right]$$

$$F'(x) = \text{[input box]}$$

3. Question Details

SCalc8 4.3.056. [3354003]

Find the derivative of the function.

$$g(x) = \int_{\tan x}^{2x^2} \frac{1}{\sqrt{5 + t^3}} dt$$

$$g'(x) = \text{[input box]}$$

4. Question Details

SCalc8 4.3.051. [3353715]

What is wrong with the equation?

$$\int_{\pi/3}^{\pi} 5 \sec(\theta) \tan(\theta) d\theta = 5 \sec(\theta) \Big|_{\pi/3}^{\pi} = -15$$

- ☐ $f(\theta) = 5 \sec(\theta) \tan(\theta)$ is not continuous on the interval $[\pi/3, \pi]$ so [FTC2](#) cannot be applied.
- ☐ $f(\theta) = 5 \tan(\theta)$ is not continuous on the interval $[\pi/3, \pi]$ so [FTC2](#) cannot be applied.
- ☐ There is nothing wrong with the equation.
- ☐ $f(\theta) = 5 \sec(\theta)$ is not continuous at $\theta = \pi/3$ so [FTC2](#) cannot be applied.
- ☐ The lower limit is not equal to 0, so [FTC2](#) cannot be applied.

State whether the following is true or false by differentiation.

$$\int \cos^2(x) \, dx = \frac{1}{2}x + \frac{1}{4} \sin(2x) + C$$

- ☐ True
- ☐ False

Find the general indefinite integral. (Use C for the constant of integration.)

$$\int \left(u^7 - 6u^6 - u^4 + \frac{8}{9} \right) du$$

Evaluate the integral.

$$\int_{-2}^3 (x^2 - 3) \, dx$$

Evaluate the integral.

$$\int_0^\pi (3 \sin \theta - 17 \cos \theta) \, d\theta$$

Evaluate the integral.

$$\int_0^{3\pi/2} 4|\sin(x)| \, dx$$

Assignment Details

Name (AID): 241 Sections 12 and 13 Week 14 Worksheet

Submissions Allowed: 5

Category: Homework

Code:

Locked: No

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Question Score

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