1 2 3 4 5 6 7 8 9

Instructions

Name

Section

Question Details

SCalc8 4.3.007. [3395157]

Use Part 1 of the Fundamental Theorem of Calculus to find the derivative of the function.

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

2. **Ouestion Details**

SCalc8 4.3.011. [3353799]

Use Part 1 of the Fundamental Theorem of Calculus to find the derivative of the function.

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

$$F'(x) = \boxed{-\sqrt{\sec(8x) + 5}}$$

Question Details 3.

SCalc8 4.3.056. [3354003]

Find the derivative of the function.

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

$$g'(x) =$$

$$-\frac{\sec^2(x)}{\sqrt{5 + \tan^3(x)}} + \frac{4x}{\sqrt{5 + 8x^6}}$$

4. Question Details

SCalc8 4.3.051. [3353715]

What is wrong with the equation?

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

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

SCalc8 4.3.051. [3353/15] $\frac{\pi}{3}$ Is inside $\operatorname{Sec}(\frac{\pi}{2}) = \frac{1}{\cos(\frac{\pi}{2})} = \frac{1}{3}$ Un define of so $f(\theta) = 5 \sec(\theta) \tan(\theta)$ is not continuous on the interval $[\pi/3, \pi]$ so FTC2 cannot be applied. $\eta \partial \psi = 0$

- $f(\theta) = 5 \tan(\theta)$ 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.

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

$$\text{True } \cos^{2}(x) = \frac{1 + \cos(2x)}{2} - \frac{1}{2} + \frac{\cos(2x)}{2}$$

$$\text{False } \frac{1}{3}\left(\frac{1}{2}x + \frac{1}{4}\sin(2x) + C\right) = \frac{1}{2} + \frac{\cos(2x)}{2} + C = \cos^{2}(x)$$

6. **Ouestion Details** SCalc8 4.4.008. [3395006]

Find the general indefinite integral. (Use
$$C$$
 for the constant of integration.)
$$\int \left(u^7 - 6u^6 - u^4 + \frac{8}{9}\right) du$$

$$C + \frac{u^8}{8} - \frac{6u^7}{7} - \frac{u^5}{5} + \frac{8u}{9}$$

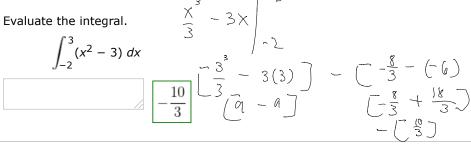
$$\frac{C}{8} - \frac{6u^7}{7} - \frac{u^5}{5} + \frac{8u}{9}$$

$$\frac{U^{2+1}}{24} - \frac{U^{4}}{44} + \frac{U$$

Question Details 7.

SCalc8 4.4.019. [3353981]

SCalc8 4.4.025. [3353629]



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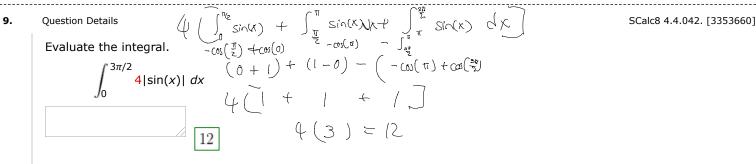
8. Question Details

Evaluate the integral.

etails
$$-3\cos\theta - 17\sin\theta \left[\frac{\pi}{3} \right]$$
the integral.
$$-3\cos(\pi) - 17\sin(\pi) - (-3\cos(0) - 17\sin(0))$$

$$-3\cos(\pi) - 17\sin(\pi) - (-3\cos(0) - 17\sin(0))$$

$$-3\cos(\pi) - 17\sin(\pi) - (-3\cos(0) - 17\sin(0))$$



Assignment Details

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

Submissions Allowed: 5 Category: Homework

Code: Locked: No Feedback Settings

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