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NPTEL

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Courses » Basic Calculus for Engineers, Scientists and Economists

Announcements Course Ask a Question Progress

Unit 4 - Week 03- Integration Of Real Functions



Course outline

How to access the portal

Week 01 - Numbers, Functions, Sequences and Limits of Functions

Week- 02- Continuity, Derivative, Maxima and Minima and Taylor's expansion

Week 03- Integration Of Real Functions

- Lecture 13 - Integration - 1
- Lecture 14 - Integration - 2
- Lecture 15 - Integration By Parts
- Lecture 16 - Definite Integral
- Lecture 17 - Riemann Integration 1
- Lecture 18 - Riemann Integration 2
- Quiz : Assignment-3
- Assignment-3 Solution

Unit 4 - Week - 04 - Function of Two Variables, Limits,

Assignment-3

The due date for submitting this assignment has passed. **Due on 2017-02-14, 23:59 IST.** As per our records you have not submitted this assignment.

1) 1. Using Leibnitz rule, find $\frac{d}{dx} \int_{\cos x}^{\sin x} \frac{1}{1-t^2} dt$

1 point

$\frac{1}{\sin x} + \frac{1}{\cos x}$

$\frac{1}{\sin x} - \frac{1}{\cos x}$

$\frac{1}{\cos x} - \frac{1}{\sin x}$

$-\frac{1}{\sin x} - \frac{1}{\cos x}$

No, the answer is incorrect.

Score: 0

Accepted Answers:

$\frac{1}{\sin x} + \frac{1}{\cos x}$

2) 2. The area between the curves $x = y^2$ and $x = 2y - y^2$ is

1 point

3

$\frac{1}{3}$

$\frac{2}{3}$

0

No, the answer is incorrect.

Score: 0

Accepted Answers:

$\frac{1}{3}$

3) 3. The area enclosed by the curves $x = -y^2$ and the line $y = x + 2$ is

1 point

$\frac{9}{2}$

$\frac{7}{2}$

$\frac{7}{2}$

$\frac{7}{2}$

Continuity,
Differentiability,
Unconstrained
and Constrained
minimization

Week - 05 -
Infinite Series,
Multiple Integrals

- 3
 4

No, the answer is incorrect.
Score: 0

Accepted Answers:

$$\frac{9}{2}$$

4) 4. $\int_0^{2\pi} \sqrt{\frac{1-\cos x}{2}} dx =$

- 2
 1
 4
 0

No, the answer is incorrect.
Score: 0

Accepted Answers:

$$4$$

5) 5. $\int \sec^2 t \tan(\tan t) dt =$

- $\sec(\tan t) + c$
 $\tan(\sec t) + c$
 $\ln(\tan(\sec t)) + c$
 $\ln(\sec(\tan t)) + c$

No, the answer is incorrect.
Score: 0

Accepted Answers:

$$\ln(\sec(\tan t)) + c$$

6) 6. $\int_0^\pi \int_0^\pi \int_0^\pi \cos(u + v + w) dudvdw$

- 1
 0
 -1
 -2

No, the answer is incorrect.
Score: 0

Accepted Answers:

$$0$$

7) 7. The volume of the solid generated by revolving the regions bounded by the curves and lines $y = 2x - 1$, $y = \sqrt{x}$, $x = 0$ about y - axis is

- $\frac{3\pi}{8}$



1 point

1 point

1 point

1 point



$\frac{2\pi}{5}$



$\frac{8\pi}{15}$



$\frac{7\pi}{15}$

No, the answer is incorrect.

Score: 0

Accepted Answers:

$\frac{7\pi}{15}$

8) 8. The value of the improper integral $\int_3^{\infty} \frac{2 du}{u^2-2u}$ is



$-\infty$



$\ln 2$



$\ln 3$



$-\ln 3$

No, the answer is incorrect.

Score: 0

Accepted Answers:

$\ln 3$

9) 9. If a function f is not differentiable at some points, then it is not Riemann integrable 1 point



True



False

No, the answer is incorrect.

Score: 0

Accepted Answers:

False

10) 10. Any bounded monotone function is always Riemann integrable. 1 point



True



False

No, the answer is incorrect.

Score: 0

Accepted Answers:

True



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