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NIPTEL

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Courses » Introduction to Probability Theory and Stochastic Processes

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Unit 2 - Week 0: Review Assignment

Course **Review Assignment** outline The due date for submitting this assignment has passed. Due on 2018-07-31, 23:59 IST. How to access As per our records you have not submitted this the portal assignment. Each of the following questions has four options out of which one or more options can be correct. 2 Week 0: Review **Assignment** marks are awarded if all correct choices are marked, 0 marks for no answer and 0 marks for any wrong answer. In case of multiple answers partial marks are given for each correct answer but if a Quiz: Review correct and an incorrect answer are chosen, then, 0 marks will be awarded. Assignment 1) What is the probability of getting a sum 8 from two throws of a dice? 2 points Week 1 Week 2 $\frac{8}{36}$ Week 3 Week 4 Week-5 Higher Dimensional Distributions Week 6 No, the answer is incorrect. Week 7 Score: 0 **Accepted Answers:** Week 8 Week 9 2) In a class, 40% of the students study math and science. 60% of the students study math. 2 points What is the probability of a student studying science given he/she is already studying Week 10 math(approximate answer upto two decimal places)? Week 11 0.2 0.67 Week 12: Markovian Queueing

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3) If A and B are two independent events, then identify the correct statement(s) 2 points Government of India Ministry of Human Resource De $P(\bar{A} \cap \bar{B}) = P(\bar{A})P(\bar{B})$ $P(\bar{A} \bigcup \bar{B}) = P(\bar{A})P(\bar{B})$ $P(A \cap B) = P(A) + P(B)$ $P(A \bigcup B) = P(A)P(B)$ No, the answer is incorrect. Score: 0 **Accepted Answers:** $P(\bar{A} \cap \bar{B}) = P(\bar{A})P(\bar{B})$ 4) What is the value of the following integral 2 points $\int_0^\infty x^3 \exp(-2x) dx$ Opes not exist $\frac{3}{2}$ $\frac{3}{8}$ No, the answer is incorrect. Score: 0 **Accepted Answers:** 5) What is the value of the following integral 2 points $\int_{-1}^{1} \exp(5x)(1-|x|)dx$ $\exp(5)$ $\exp(5)+\exp(-5)-2$ $\exp(-5)$ No, the answer is incorrect. Score: 0 **Accepted Answers:** $\exp(5) + \exp(-5) - 2$ 6) Compute the limit $\lim_{x\to 2} \frac{x^2-4}{x^2-3x+2}$ 2 points

Does not exist

2

O 4

No, the answer is incorrect.

Score: 0

Accepted Answers:

4

7) If a function g(t) is defined as

2 points

$$g(t) = \int_{-\infty}^{\infty} \expigg(xt - rac{(x-2)^2}{2}igg) dx.$$

Then what is the value of the second order derivative of g(t) at t=0, if it exists?

O Does not exist

(2)

 $\sqrt{2\pi}$

 $\sqrt{10\pi}$

 $5\sqrt{2\pi}$

No, the answer is incorrect.

Score: 0

Accepted Answers:

 $5\sqrt{2\pi}$

8) Consider the following system of linear equations.

2 points

$$-\frac{2}{3}x + \frac{2}{5}y + \frac{1}{4}z = 0$$
$$\frac{1}{3}x - \frac{3}{5}y + \frac{1}{2}z = 0$$
$$\frac{1}{3}x + \frac{1}{5}y - \frac{3}{4}z = 0$$
$$x + y + z = 1$$

Identify the correct statement(s).

The system has infinitely many solutions.

 $x=rac{21}{62}$, $y=rac{25}{62}$, $z=rac{16}{62}$ is a solution.

The system has no solution

0

 $x=rac{25}{62}$, $y=rac{16}{62}$, $z=rac{21}{62}$ is a solution.

No, the answer is incorrect.

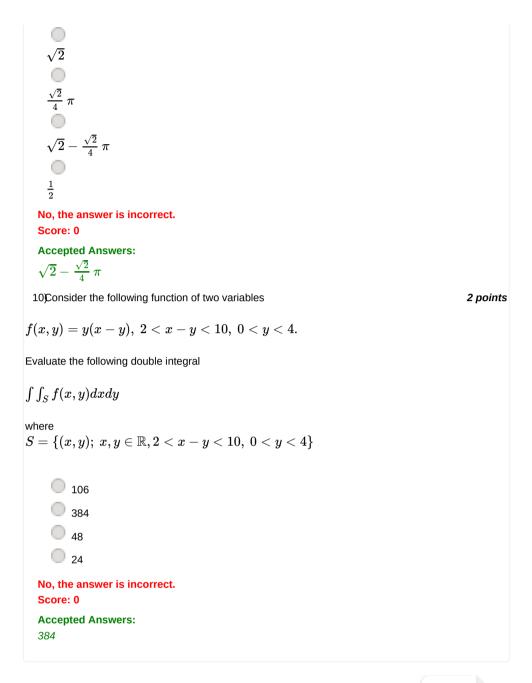
Score: 0

Accepted Answers:

 $x = \frac{21}{62} \ , y = \frac{25}{62} \ , z = \frac{16}{62} \$ is a solution.

9) Calculate the area contained between the curve $y = \cos(x), \; -\pi < x < \pi$ and the $\;$ **2** *points*

 $y=rac{1}{\sqrt{2}}$



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