



reviewer4@nptel.iitm.ac.in

Courses » Probability and Statistics

Announcements

Course

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Unit 3 - Week 1

Register for Certification exam

Course outline

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Week 0

Week 1

- Lecture 1: Sets, Classes, Collections
- Lecture 2: Sequence of Sets
- Lecture 3: Ring, Field (Algebra)
- Lecture 4: Sigma-Ring, Sigma-Field, Monotone Class
- Lecture 5: Random Experiment, Events
- Lecture 6: Definitions of Probability
- Lecture 7: Properties of Probability Function - I
- Lecture 8: Properties of Probability Function - II

Quiz : Assignment 1

Feedback for Week 1

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Assignment 1

The due date for submitting this assignment has passed. As per our records you have not submitted this assignment.

Due on 2019-02-13, 23:59 IST

1) In a die rolling experiment, consider

1 point

$$F_1 = \{\Omega, \phi, \{2, 4, 6\}, \{1, 3, 5\}\} \quad F_2 = \{\Omega, \phi\}$$

$$F_3 = \{\Omega, \phi, \{1, 2, 4, 6\}, \{3, 4, 5, 6\}\} \quad F_4 = \{\Omega, \phi, \{1, 2\}, \{3, 4\}, \{5, 6\}\}$$

Which of the following are σ -fields?

- a. F_2 only
- b. F_1 and F_2 only
- c. F_2 and F_3
- d. F_2, F_1 and F_4 .

- a
- b
- c
- d

No, the answer is incorrect.

Score: 0

Accepted Answers:

b

2)

1 point

For any two events E and F with $P(E) = 0.3$ and $P(F) = 0.25$, which of the following statement is true?

- a. $0.25 < P(E \cap F) \leq 0.30$
- b. $0.25 \leq P(E \cup F) < 0.30$
- c. $0.70 < P(E - F) \leq 0.90$
- d. $P(E^c \cap F^c) \geq 0.45$

- a
- b

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Week 11

Week 12

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Assignment Solution

d

3)

1 point

Let $A_n = \left(0, 1 - \frac{1}{n}\right)$, $B_n = \left(0, 1 + \frac{1}{n}\right)$, $n = 1, 2, \dots$. Find $\lim_{n \rightarrow \infty} A_n$ and $\lim_{n \rightarrow \infty} B_n$.

- a. $(0,1)$ and $(0,1)$
- b. $(0,1]$ and $(0,1)$
- c. $(0,1)$ and $(0,1]$
- d. $[0,1]$ and $[0,1]$

- a
- b
- c
- d

No, the answer is incorrect.

Score: 0

Accepted Answers:

c

4)

1 point

In a certain colony, 50% of the families own a desktop computer, 25% own a laptop and 10% own both a desktop and a laptop. If a family is randomly chosen, then the probability that this family owns a desktop or a laptop but not both is

- a. 0.65
- b. 0.55
- c. 0.45
- d. 0.35

- a
- b
- c
- d

No, the answer is incorrect.

Score: 0

Accepted Answers:

b

5)

1 point

Two fair dice are tossed together. Then the probability that the product of the numbers on the upper face is divisible by 3 is

- a. $\frac{1}{9}$
- b. $\frac{2}{9}$
- c. $\frac{5}{9}$
- d. $\frac{7}{9}$

- a

- b
 c
 d

No, the answer is incorrect.

Score: 0

Accepted Answers:

c

6)

1 point

A random experiment has two mutually exclusive and exhaustive possible outcomes, the first occurs with probability $\left(p^2 + \frac{p}{4}\right)$ and the second occurs with probability $\left(\frac{3-p}{4}\right)$. Then the possible values of

are

- a. $\frac{1}{4}$ and $\frac{-1}{4}$
 b. $\frac{1}{2}$ and $\frac{-1}{2}$
 c. $\frac{1}{2}$ and -1
 d. $\frac{1}{4}$ and -1

- a
 b
 c
 d

No, the answer is incorrect.

Score: 0

Accepted Answers:

b

7)

1 point

A box contains n balls marked from 1 to n . Two balls are drawn in succession with replacement. Find the probability that number on the balls are consecutive integers (ignore the order of balls).

- a. $\frac{2(n-1)}{n^2}$
 b. $\frac{2}{n(n-1)}$
 c. $\frac{n}{2(n-1)^2}$
 d. $\frac{n-1}{n}$

- a
 b
 c
 d

No, the answer is incorrect.

Score: 0

Accepted Answers:

a

8)

1 point

Each of the coefficients a, b, c are determined by throwing a fair dice three times. What is probability that the system of linear equations $a^2x + by = 0$, $bx + cy = 0$ has non-trivial solutions?

- a. $\frac{1}{27}$
 b. $\frac{2}{27}$
 c. $\frac{1}{12}$
 d. $\frac{1}{24}$

- a
 b
 c
 d

No, the answer is incorrect.

Score: 0

Accepted Answers:

d

9)

1 point

A card is drawn at random from each of two well-shuffled packs of cards. What is the probability that exactly one of them is a king of hearts?

- a. $\frac{51}{1352}$
 b. $\frac{51}{2704}$
 c. $\frac{1}{2704}$
 d. $\frac{1}{52}$

- a
 b
 c
 d

No, the answer is incorrect.

Score: 0

Accepted Answers:

a

10)

1 point

A five digit number is chosen at random. Find the probability that there are exactly two zeros in the number.


- a. 0.0999
 b. 0.4543
 c. 0.1354
 d. 0.0486

- a

b
 c
 d

No, the answer is incorrect.
Score: 0

Accepted Answers:
d



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