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Courses » Six Sigma

Announcements

Course

Ask a Question

Progress



Unit 3 - Week 2

Course outline

How to access the portal

Week 1

Week 2

Lecture 5: Review of Probability and Statistics - I

Lecture 6: Review of Probability and Statistics - II

Lecture 7: Review of Probability and Statistics - III

Lecture 8: Review of Probability and Statistics - IV

Feedback for Week 2

Quiz : Week 2: Assignment1 (Jan 2018)

Week 2: Assignment 1 (Jan 2018) Solution

Week 3

Week 4

Week 5

Week 6

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Week 9

Week 2: Assignment1 (Jan 2018)

The due date for submitting this assignment has passed. **Due on 2018-02-07, 23:59 IST**
As per our records you have not submitted this assignment.

1. Total No. of Questions: 15. Each question carries one point.
2. All questions are objective type. In some of the questions, more than one answers are correct.
3. This assignment includes true/false statement questions.

1) Bag I contains 6 white and 4 black balls while another Bag II contains 3 white and 4 black balls. One ball is drawn at random from one of the bags and it is found to be black. What is the probability that it was drawn from Bag II? **1 point**

- 0.404
- 0.583
- 0.588
- 0.644

No, the answer is incorrect.

Score: 0

Accepted Answers:

0.588

2) Match the following. **1 point**

1. Events	a.	Head will be mapped to 1, and tail will be mapped to 0, in Coin tossing.
2. Sample Space	b.	The possible outcomes of a stochastic or random process
3. Random Variable	c.	The set that consists of all the outcomes

- 1-c, 2-b, 3-a
- 1-b, 2-a, 3-c
- 1-b, 2-c, 3-a
- 1-c, 2-a, 3-b

No, the answer is incorrect.

Score: 0

Accepted Answers:

1-b, 2-c, 3-a

3) At Cornell School, all first year students must take chemistry and math. Suppose 25% fail in chemistry, 18% fail in math, and 9% fail in both. Suppose a first year student is selected at random. What is the probability that student selected failed at least one of the courses? **1 point**

- 0.22
- 0.34
- 0.45
- None of these

Week 10

Week 11

Week 12

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No, the answer is incorrect.**Score: 0****Accepted Answers:**

0.34

4) Which of the following statement is correct?

1 point

- The probability of rain today is 23%.
 The probability of rain today is -10%.
 The probability of rain today is 120%.
 The probability of rain or no rain today is 80%.

No, the answer is incorrect.**Score: 0****Accepted Answers:***The probability of rain today is 23%.*

5) The given table shows the data of Two-way Tables and Probability of a class. Find the probability that the student getting Ex grade is a girl.

1 point

	Got Ex	Got<Ex
Girl	25	40
Boy	55	60

- 13/36
 4/9
 5/36
 5/13

No, the answer is incorrect.**Score: 0****Accepted Answers:**

5/13

6) A pack contains 4 blue, 2 red and 3 black pens. If 2 pens are drawn at random from the pack, NOT replaced and then another pen is drawn. What is the probability of drawing 2 blue pens and 1 black pen? 1 point

- 1/14
 2/14
 3/14
 4/14

No, the answer is incorrect.**Score: 0****Accepted Answers:**

1/14

7) If two events are mutually exclusive then which of the following holds good? 1 point

- Events whose occurrence do not depend on the occurrence of any other events
 The occurrence of one precludes the occurrence of the other
 $P(A \cap B) = 0$
 $P(A \cap B) = P(A) + P(B)$



No, the answer is incorrect.

Score: 0

Accepted Answers:

The occurrence of one precludes the occurrence of the other

$$P(A \cap B) = 0$$

8) If a coin is tossed five times then what is the probability that you observe at least one head? **1 point**

- 1/32
- 15/32
- 23/32
- 31/32

No, the answer is incorrect.

Score: 0

Accepted Answers:

31/32

9) A desk lamp produced by The Luminar Company was found to be defective (D). There are **1 point** three factories (A, B, C) where such desk lamps are manufactured. A Quality Control Manager (QCM) is responsible for investigating the source of found defects. This is what the QCM knows about the company's desk lamp production and the possible source of defects:

Factory	% of total production	Probability of defective lamps
A	$0.35 = P(A)$	$0.015 = P(D A)$
B	$0.35 = P(B)$	$0.010 = P(D B)$
C	$0.30 = P(C)$	$0.020 = P(D C)$

The QCM would like to answer the following question: If a randomly selected lamp is defective, what is the probability that the lamp was manufactured in factory B?

- 0.407
- 0.381
- 0.326
- 0.237

No, the answer is incorrect.

Score: 0

Accepted Answers:

0.237

10) One card is randomly drawn from a pack of 52 cards. What is the probability that the card drawn is a face card (Jack, Queen or King)? **1 point**

- 1/13
- 2/13
- 3/13
- 4/13

No, the answer is incorrect.

Score: 0

Accepted Answers:

3/13



11) Consider the experiment of tossing a coin twice. A is an event having sample set as {HT, HH} **1 point** and B is an event having sample set {HT}. Event A is independent from Event B.

- True
 False

No, the answer is incorrect.

Score: 0

Accepted Answers:

False

12) In a class, 40% of the students study math and science. 60% of the students study math. What is the probability of a student studying science given he/she is already studying math? **1 point**

- 0.34
 0.53
 0.67
 0.74

No, the answer is incorrect.

Score: 0

Accepted Answers:

0.67

13) At a car park there are 100 vehicles, 60 of which are cars, 30 are vans and the remainder are Lorries. If every vehicle is equally likely to leave, find the probability of car leaving second if either a lorry or van had left first. **1 point**

- 3/10

20/33

1/10

3/5

No, the answer is incorrect.

Score: 0

Accepted Answers:

20/33

14) What is the formula to find skewness of a distribution? **1 point**

- $$g = \sqrt{\frac{\sum (x - x_i)^3}{(n-1)s^3}}$$
 Where x is the observation, x_i is the mean, n is the total number of observations and s is the variance.

Skewness = $(3 \times (\text{mean} - \text{median})) / (\text{standard deviation})$
 Both a and b
 None of these

No, the answer is incorrect.

Score: 0

Accepted Answers:

Both a and b

15) What is the median and mode for the following list of values? 13, 18, 13, 14, 13, 16, 14, 21, **1 point**
13

- 14 and 13
 15 and 16
 14 and 15
 13 and 16



No, the answer is incorrect.

Score: 0

Accepted Answers:

14 and 13

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