Unit 4 - Week 3

Assignment 3

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

Due on 2020-02-19, 23:59 IST.

1) A deck of cards contains 20 cards: 6 red cards and 14 black cards. 5 cards are drawn randomly without replacement. What is the probability that exactly 4 red cards are drawn? ***1 point***

- 0.187
- 0.023
- 0.0135
- 0.0645

No, the answer is incorrect.
Score: 0
Accepted Answers:
0.0135

2) I roll a fair die repeatedly until a number larger than 4 is observed. If N is the total number of times that I roll the die, find P(N = 2). ***1 point***

- 2/9
- 1/3
- 4/9
- 2/3

No, the answer is incorrect.
Score: 0
Accepted Answers:
2/9

3) You take an exam that contains 20 multiple-choice questions. Each question has 4 possible options. You know the answer to 10 questions, but you have no idea about the other 10 questions so you choose answers randomly. Your score X on the exam is the total number of correct answers. Find the PMF of X. What is P(*X* = 15)? ***0 points***

- 0.001
- 0.003
- 0.006
- 0.009

No, the answer is incorrect.
Score: 0
Accepted Answers:
0.006

4) The number of customers arriving at a grocery store is a Poisson random variable. On average 10 customers arrive per hour. Let X be the number of customers arriving from 10am to 11:30am. What is P (10 < *X* <= 15) ? ***1 point***

- 0.45
- 0.56
- 0.76
- 0.32

No, the answer is incorrect.
Score: 0
Accepted Answers:
0.45

5) Let X is Poisson(a) and Y is Poisson(b) be two independent random variables. Define a new random variable as Z = X+Y. Find the PMF of Z. ***1 point***

- Poisson
- Poisson(b)
- Poisson(a+b)
- Poisson(ab)

No, the answer is incorrect.
Score: 0
Accepted Answers:
Poisson(a+b)

6) Find the expected number of trials to obtain a 6 using a dice given that the dice only rolls 2,4,6 with equal probability. ***0 points***

- 6
- 4
- 3
- 2

No, the answer is incorrect.
Score: 0
Accepted Answers:
3

7) Find the expected number of cards to be drawn from a standard deck of 52 cards to see the first ace(the cards are being drawn without replacement) ? ***0 points***

- 48/5
- 53/5
- 4
- 5

No, the answer is incorrect.
Score: 0
Accepted Answers:
53/5

8) Draw 6 cards from a deck without replacement. What is the probability of getting two hearts? ***1 point***

- 0.43
- 0.56
- 0.32
- 0.76

No, the answer is incorrect.
Score: 0
Accepted Answers:
0.32

9) You are surveying people exiting from a polling booth and asking them if they voted independent. The probability (p) that a person voted independent is 0.20. What is the probability that 15 people must be asked before you can find 5 people who voted independent? ***1 point***

- 0.034
- 0.045
- 0.023
- 0.067

No, the answer is incorrect.
Score: 0
Accepted Answers:
0.034

10) Which of the following is/are true? ***1 point***

- Negative Binomial is a special case of geometric distribution
- Geometric is a special case of Negative Binomial distribution
- Both of the above
- None of the above

No, the answer is incorrect.
Score: 0
Accepted Answers:
Geometric is a special case of Negative Binomial distribution