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Courses » An Introduction to Probability in Computing

Announcements Course Ask a Question Mentor Progress Unit 3 - Week 1 Course Assignment 1 outline The due date for submitting this assignment has passed. Due on 2018-02-21, 23:59 IST. How to access Submitted assignment the portal 1) We flip a fair coin five times. What is the probability of seeing at least one head and one tail? **1** point Week 0 0.03125 Week 1 0.0625 Introduction to 0.9375 Probability - A 0.96875 box of chocolates No, the answer is incorrect. Score: 0 Introduction to Probability -**Accepted Answers:** Axiomatic 0.9375 Approach to Probability 2) Let A and B be two independent events. Let \overline{A} denote the complementary event $\Omega - A$. 1 point Theory Then, the events \overline{A} and B are independent. Introduction to Probability -True Verifying Matrix False Multipilication (Statement, Algorithm No, the answer is incorrect. & Score: 0 Independence) **Accepted Answers:** Introduction to True Probability -Verifying Matrix 3) We toss three fair coins independently. Let A be the event that the number of heads is even **1** point Multipilication (and let B be the event that exactly one of the first two tosses is heads. Then, A and B are not Correctness & Law of Total independent events. Probability) True Introduction to False Probability -How Strong is No, the answer is incorrect. your Network? Score: 0 Introduction to **Accepted Answers:** Probability -False How to Understand the 4) Two fair dice are rolled. What is the probability that their sum is 7? 1 point World? Play with it! 7 Tutorial 1 Tutorial 2 $\frac{6}{36}$ OQuiz : Assignment 1 Typesetting math: 100% $\frac{5}{36}$

16/05/2018

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Ineraction Session $\frac{5}{18}$

No, the answer is incorrect. Score: 0

Accepted Answers: $\frac{6}{36}$

5) We toss ten fair coins independently. What is the probability that the sequence of tosses is **1** point not a palindrome?

0.03125
.0625
0.9375

0.96875

No, the answer is incorrect. Score: 0

Accepted Answers:

0.96875

6) We toss ten fair coins independently. The probability that the sequence of tosses contains at **1** point least 4 heads is strictly greater than the probability that the sequence of tosses contains at most 6 tails.

True
False

No, the answer is incorrect. Score: 0

Accepted Answers: False

7) Two fair dice are rolled. What is the probability that the product of the values on the dice is **1** point divisible by 4?

 $\frac{\frac{1}{2}}{\frac{5}{18}}$ $\frac{\frac{5}{12}}{\frac{1}{3}}$ No, the answer is incorrect. Score: 0 Accepted Answers:

 $\frac{5}{12}$

8) A fair coin is flipped six times independently. Let *A* be the event that the odd trials are heads **1** *point* and *B* the event that the tosses form a palindrome. Then, Pr(A) = Pr(B).

TrueFalse

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

True

9) A coin is flipped twenty two times independently. What is the probability that the number of **1** point heads is even given that the sequence of tosses forms a palindrome?

Typesetting math: 100%

0

An Introduction to Probability in Computing - - Unit 3 - Week 1

\bigcirc	0.25
\bigcirc	0.75
	1

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

1

10)A fair die is rolled and the value is recorded, call it N. Then, N fair coins are flipped. What is **1** point the probability that no heads is observed? (The answer is truncated to two decimal places.)

1
0.16
0.32
0.67

No, the answer is incorrect. Score: 0

Accepted Answers: 0.16

11) Two fair dice are rolled. What is the probability that the product of the values is not a prime? 1 point

 $\begin{array}{c}
0 \\
\frac{1}{36} \\
\frac{30}{36} \\
1
\end{array}$

No, the answer is incorrect. Score: 0

Accepted Answers: $\frac{30}{36}$

 $\frac{6}{36}$

 $\frac{8}{36}$

 $\frac{10}{36}$

 $\frac{12}{36}$

12) Two fair dice are rolled. What is the probability that the product of the values is a square? **1** point

No, the answer is incorrect. Score: 0

Accepted Answers: $\frac{8}{8}$

 $\frac{8}{36}$

13)Two fair dice are rolled. We take the sum of the values, add this to the product of the values **1** *point* and finally add one to this. What is the probability that this value is divisible by 7?



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

 $\frac{11}{36}$

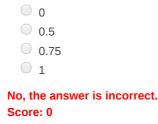
 $\frac{1}{3}$

14) fair die is rolled. If the value on it is odd, a second fair die is rolled as well; otherwise, the **1** point second die is not rolled. What is the probability that the sum of the values on both dice is odd given that both dice were rolled?

 $\frac{1}{6}$ $\frac{1}{3}$ $\frac{1}{2}$ 1No, the answer is incorrect.
Score: 0
Accepted Answers:

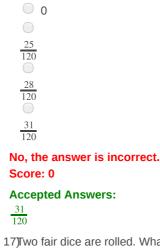
 $\frac{1}{2}$

15) Two fair dice are rolled. Given that the sum of the values is even, what is the probability that **1** point the product of the values is odd?



Accepted Answers: 0.5

16) arrange a chessboard with pieces in starting position, however I feel funny, and decide to **1** point randomly swap the position of a pair of pieces on the <u>whiteside</u>. What is the probability that the pieces are still in the right starting position?



17)Two fair dice are rolled. What is the probability that the product is a perfect square given that **1** *point* the sum is even?

 $\begin{array}{c} 0 \\ 1 \\ 3 \end{array}$

 $\frac{2}{3}$ No, the answer is incorrect. Score: 0 Accepted Answers: $\frac{1}{3}$

18By repeating Karger's Min Cut Algorithm $n(n-1) \ln n$, we reduce the error probability to $\frac{1}{n^2}$. **1** point Suppose we double the number of repetitions, then the error probability reduces by at most a factor of half.

TrueFalse

0 1

n - 2

n - 1

п

 $\frac{1}{2}$

No, the answer is incorrect. Score: 0

Accepted Answers: False

19) Given a tree on *n* vertices, how many unique min cut-sets does it have?

1 point

No, the answer is incorrect. Score: 0

Accepted Answers: n-1

20) If a graph G has min cut of size k, then, the minimum degree over all vertices in the graph is **1** point at most k - 1.

G+

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

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