Problem Set 4

1

0.0/2.0 points (graded)

Which of the following sample spaces are uniform?

- [ ] {land,sea} for a random chosen point on the globe
- [ ] {odd, even} for a random integer from {1,2,...,100} ✔
- [ ] {leap year, non-leap year} for a random year before 2017
- [ ] {two heads, two tails, one head and one tail} when flipping two fair coins
- [ ] {distance to origin} for a random point in $\{-3,-1,1,3\} \times \{-4,-2,2,4\}$ ✔

Submit

You have used 0 of 4 attempts

Answers are displayed within the problem

2

0.0/1.0 point (graded)

Roll two fair six-sided dice. What is the probability that the outcome of the second die is strictly greater than the the first?

Answer: 5/12

Submit You have used 0 of 4 attempts

Answers are displayed within the problem

3

0.0/3.0 points (graded)

A standard poker deck has 52 cards, of 13 ranks {A,2,...,10,J,Q,K} and 4 suits {diamonds, clubs, hearts, spades}. What is the probability that a hand of five cards contain

- a queen of hearts,

Answer: 5/52

- a queen,

Answer: 0.3412

Explanation

Calculate the probability of its complement case, which is no queen.

- a hearts?

Answer: .7785

Explanation

Calculate the probability of its complement case, which is no hearts.

Submit You have used 0 of 4 attempts

Answers are displayed within the problem

4

0.0/3.0 points (graded)

Three fair coins are tossed. What is the probability that they are all heads if

- the first coin is head,

Answer: 1/4

- at least one coin is head,

Answer: 1/7

- the third coin is tail?

Answer: 0

Submit You have used 0 of 4 attempts

Answers are displayed within the problem

5

0.0/1.0 point (graded)

A college graduate is applying for a job and has 3 interviews with Google. She passes the first, second, and third interviews with probability 0.9, 0.8, and 0.7, respectively. If she fails any interview, she cannot continue with subsequent interview(s) and will not get the job. If she didn't get the job, what is the probability that she failed the second interview?

Answer: 45/124

Explanation
Use Bayes' rule. Note that she definitely won't get the job if she failed the second interview.

Submit You have used 0 of 4 attempts

Answers are displayed within the problem