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Distribution Types Video

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Hello, and welcome back.

So now that we have discussed randomness, and distributions, let's talk about distribution types.

We're going to discuss uniform sample spaces; give some examples of coins, dice, and cards; and then we'll talk about non-uniform spaces.



5.2 Probability Distribution Types

POLL

An outcome in a uniform probability space has probability $1/10$, what is the size of the sample space?

RESULTS

- | | |
|---|-----|
| <input checked="" type="radio"/> 10 | 97% |
| <input type="radio"/> None of the above | 3% |
| <input type="radio"/> 5 | 0% |
| <input type="radio"/> 20 | 0% |

Submit

Results gathered from 342 respondents.

FEEDBACK

The answer is 10.

1

0/1 point (graded)

Which of the following sample spaces are uniform?

☐ {land, sea} for a randomly point on a globe

☐ {odd, even} for a random integer from $\{1, 2, \dots, 100\}$ ✓

☐ {leap year, non-leap year} for a random year before 2019

☒ {two heads, two tails, one head and one tail} when flipping two fair coins

☐ {distance to origin} for a random point in $\{-3, -1, 1, 3\} \times \{-4, -2, 2, 4\}$ ✓



Explanation

- False. About 70% of the times will be "sea".
- True. Half the time we'll observe even, and half odd.
- False. "non-leap year" is roughly three times more likely.
- False. "one head and one tail" is more likely.
- True. There are four distances, and each shared by 4 of the 16 points.

Submit

You have used 3 of 3 attempts

i Answers are displayed within the problem

2

1.0/1.0 point (graded)

Given an uniform probability space $\Omega = \{1, 2, 3, \dots, 100\}$, what is the probability that the outcome contains the digit 1 (e.g. 19, 91)?

0.2

✓ Answer: 1/5

0.2

Explanation

There are 20 of them. Note that 11 should not be counted twice.

Submit

You have used 1 of 4 attempts

i Answers are displayed within the problem

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Problem 2

Questions and comments regarding problem 2.

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