AI5030: Probability Assignment - 1

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Question

Two dice are thrown simultaneously. What is the probability that the sum of thenumbers appearing on the dice is

A. ***7?***

B. ***a prime number?***

C. ***1?***

when two dice are thrown, There are 36 possible outcomes in total.

A. To get a sum of 7, there are 6 possible outcomes:
(1,6), (2,5), (3,4), (4,3), (5,2), (6,1).

Thus, the probability of getting a sum of 7 is **1/6**.

B. To get a prime number as the sum of two dice, we need to consider the following outcomes:
(1,2), (1,4), (2,1), (2,3), (2,5), (3,2), (3,4), (4,1), (4,3), (4,5), (5,2), (5,4), (6,1), (6,5).

There are 14 such outcomes, so probability of getting a prime number as the sum of two dice is **7/18**.

C. To get a sum of 1, the only possible outcome is (1,0),(0,1) which are not a valid outcome as the numbers on a die range from 1 to 6.

Therefore, the probability of getting a sum of 1 is **0**.

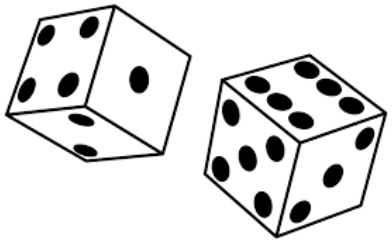

Fig. 0. 2 Dice are thrown at simultaneously

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