STATISTICS

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Two dice are thrown at the same time ...

Find the probability

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Question: Two dice are thrown at the same time.

Find the probability of getting

(i) the same number on both dice.

(ii) different numbers on both dice.

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Solution:

Given that, Two dice are thrown at the same time.

So, the total number of possible outcomes n(S) $= 6^2 = 36$

(i) Getting the same number on both dice:

Let A be the event of getting the same number on both dice.

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Possible outcomes are (1,1), (2,2), (3, 3), (4, 4), (5, 5) and (6, 6).

Number of possible outcomes = n(A) = 6

Hence, the required probability =P(A) = n(A)/n(S)

= 6/36

= 1/6 *Answer*

	1	2	3	4	5	6
1	(1,1)	(1,2)	(1,3)	(1,4)	(1,5)	(1,6)
2	(2,1)	(2,2)	(2,3)	(2,4)	(2,5)	(2,6)
3	(3,1)	(3,2)	(3,3)	(3,4)	(3,5)	(3,6)
4	(4,1)	(4,2)	(4,3)	(4,4)	(4,5)	(4,6)
5	(5,1)	(5,2)	(5,3)	(5,4)	(5,5)	(5,6)
6	(6,1)	(6,2)	(6,3)	(6,4)	(6,5)	(6,6)

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(ii) Getting a different number on both dice.

Let B be the event of getting a different number on both dice.

Number of possible outcomes n(B) = 36 – Number of possible outcomes for the same number on both dice

= 36 – 6 = 30

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Hence, the required probability = P(B) = n(B)/n(S)

= 30/36

= 5/6 *Answer*

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Thank you!

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