

Assignment 3

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CBSE Probability Grade 10

Exercise 15.1 Q13: A die is thrown once. Find the (iii)
probability of getting

- (i) a prime number
- (ii) a number lying between 2 and 6
- (iii) an odd number

Solution: Let $X = \{0, 1, 2\}$ be a random variable representing the property of the number as described in the Table (I)

Event	Description
$X = 0$	Number is a prime number
$X = 1$	Number lies between 2 and 6
$X = 2$	Number is an odd number

TABLE I

(i)

$$\Pr(X = 0) \quad (1)$$

$$= \frac{\text{Number of prime numbers on the dice}}{\text{Total number of numbers on dice}} \quad (2)$$

$$(3)$$

$$= \frac{3}{6} \quad (4)$$

$$= 0.5 \quad (5)$$

Hence, the probability of getting a prime number is 0.5.

(ii)

$$\Pr(X = 1) \quad (6)$$

$$= \frac{\text{Number of numbers between 2 and 6}}{\text{Total number of numbers on dice}} \quad (7)$$

$$= \frac{3}{6} \quad (8)$$

$$= 0.5 \quad (9)$$

Hence, the probability of getting a number lying between 2 and 6 is 0.5.

$$\Pr(X = 2) \quad (10)$$

$$= \frac{\text{Number of odd numbers on the dice}}{\text{Total number of numbers on dice}} \quad (11)$$

$$= \frac{3}{6} \quad (12)$$

$$= 0.5 \quad (13)$$

Hence, the probability of getting an odd number is 0.5.