Assignment 3

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CBSE Probability Grade 10

Exercise 15.1 Q13: A die is thrown once. Find the 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 events 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)

$$\Pr(X = 0) \tag{1}$$
$$= \frac{\text{Number of prime numbers on the dice}}{\text{Total number of numbers on dice}} \tag{2}$$
$$\tag{3}$$
$$= \frac{3}{6} \tag{4}$$
$$= 0.5 \tag{5}$$

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

(ii)

$$\Pr(X = 1) \tag{6}$$
$$= \frac{\text{Number of numbers between 2 and 6}}{\text{Total number of numbers on dice}} \tag{7}$$
$$= \frac{3}{6} \tag{8}$$
$$= 0.5 \tag{9}$$

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

(iii)

$$\Pr(X = 2) \tag{10}$$
$$= \frac{\text{Number of odd numbers on the dice}}{\text{Total number of numbers on dice}} \tag{11}$$
$$= \frac{3}{6} \tag{12}$$
$$= 0.5 \tag{13}$$

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