

CHAPTER 15**Probability****Definition of Probability:**

Let 'S' be a sample space associated with a random experiment and E be the event subset of "S". Then probability of 'E' is given by,

$$P(E) = \frac{\text{Number of outcomes favourable to event } E}{\text{Total number of possible outcomes of the experiment}} = \frac{n(E)}{n(S)}$$

Example:

A die is tossed once. What is the probability of getting a number '6'?

Sol:

In tossing a die once. The sample space is given by,

$$S = \{1, 2, 3, 4, 5, 6\} \Rightarrow n(S) = 6$$

Let 'E' be the even of getting a number '6'.

$$\Rightarrow n(E) = 1$$

$$\therefore P(E) = \frac{\text{Number of favourable outcomes to event } E}{\text{Total number of possible outcomes}}$$

$$\Rightarrow \boxed{P(E) = \frac{n(E)}{n(S)}}$$

$$\Rightarrow \boxed{P(E) = \frac{1}{6}}$$