Assignment 3

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NCERT class10 Probability

15.2 example 5:

Two players,Sangeeta and Reshma,play a tennis match. It is known that probability of Sangeeta winning the match is 0.62.What is the probability of Reshma winning the match?

solution:

Denote the probability of players winning the match by a random variable $X \in \{0, 1\}$, where $X = 0$ denotes the probability of Sangeeta winning the match and $X = 1$ denotes the probability of Reshma winning the match. Given,

$$\Pr(X = 0) = 0.62 \tag{1}$$

We know that these two events are mutually exclusive and exhaustive so,

$$\Pr(X = 0) + \Pr(X = 1) = 1 \tag{2}$$
$$\implies \Pr(X = 1) = 1 - \Pr(X = 0) \tag{3}$$
$$\implies \Pr(X = 1) = 1 - 0.62 \tag{4}$$
$$\implies \Pr(X = 1) = 0.38 \tag{5}$$

$\therefore$ the probability of Reshma winning the match is 0.38