

AI1110: Assignment 3

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Abstract—This document contains the solution to Question of Chapter 15 (Probability) in the NCERT Class 9 Textbook.

Probability Exercise 15.1 Q1.

In a cricket match, a batswoman hits a boundary 6 times out of 30 balls she plays. Find the probability that she did not hit a boundary.

Solution.

Let $X \in \{0, 1\}$ is random variable that denote whether the batswomen hits a boundary or not.

Event	Description
$X=0$	doesn't hit a boundary
$X=1$	hit a boundary

The probability that the batswomen hits a boundary:

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

$$= \frac{\text{The number of times when she hit boundary}}{\text{total number of balls played}} \quad (2)$$

$$= \frac{6}{30} \quad (3)$$

$$= 0.2 \quad (4)$$

The probability that the batswomen doesn't hit a boundary: We know that the event mention are mutual exclusive and exhaustive events

$$\Pr(X = 0) = 1 - \Pr(X = 1) \quad (5)$$

$$= 1 - 0.2 \quad (6)$$

$$= 0.8 \quad (7)$$

\therefore the probability that the batswomen does'nt hit a boundary is 0.8