NCERT Solutions For Class 10 Maths Chapter 15 Probability Exercise 15.2

Exercise 15.2

Q1. Two customers Shyam and Ekta are visiting a particular shop in the same week (Tuesday to Saturday). Each is equally likely to visit the shop on any day as on another day. What is the probability that both will visit the shop on (i) the same day? (ii) consecutive days? (iii) different days?

Ans. Total favourable outcomes associated to the random experiment of visiting a particular shop in the same week (Tuesday to Saturday) by two customers Shyam and Exta are:

(T, T) (T, W) (T, TH) (T, F) (T, S)

(W, T) (W, W) (W, TH) (W, F) (W, S)

(TH, T) (TH, W) (TH, TH) (TH, F) (TH, S)

(F, T) (F, W) (F, TH) (F, F) (F, S)

(S, T) (S, W) (S, TH) (S, F) (S< S)

$\therefore$ Total number of favourable outcomes = 25

(i) The favourable outcomes of visiting on the same day are (T, T), (W, W), (TH, TH), (F, F) and (S, S).

$\therefore$ Number of favourable outcomes = 5

Hence required probability $= \frac{5}{25} = \frac{1}{5}$

(ii) The favourable outcomes of visiting on consecutive days are (T, W), (W, T), (W, TH), (TH, W), (TH, F), (F, TH), (S, F) and (F, S).

$\therefore$ Number of favourable outcomes = 8

Hence required probability $= \frac{8}{25}$

(iii) Number of favourable outcomes of visiting on different days are $25 - 5 = 20$

$\therefore$ Number of favourable outcomes = 20

Hence required probability = $\frac{20}{25} = \frac{4}{5}$

Q2. A die is numbered in such a way that its faces show the numbers 1, 2, 2, 3, 3, 6. It is thrown two times and the total score in two throws is noted. Complete the following table which gives a few values of the total score on the two throws:

Number in second throw \ Number in first throw	1	2	2	3	3	6
1	2	3	3	4	4	7
2	3	4	4	5	5	8
2					5	
3						
3			5			9
6	7	8	8	9	9	12

What is the probability that the total score is

What is the probability that the total score is:

(i) even

(ii) 6

(iii) at least 6?

Ans. Complete table is as under:

Number in second throw \ Number in first throw	1	2	2	3	3	6
1	2	3	3	4	4	7
2	3	4	4	5	5	8
2	3	4	4	5	5	8
3	4	5	5	6	6	9
3	4	5	5	6	6	9
6	7	8	8	9	9	12

It is clear that total number of favourable outcomes = $6 \times 6 = 36$

(i) Number of favourable outcomes of getting total score even are 18

Hence P (getting total score even) = $\frac{18}{36} = \frac{1}{2}$

(ii) Number of favourable outcomes of getting total score 6 are 4

Hence P (getting total score 6) = $\frac{4}{36} = \frac{1}{9}$

(iii) Number of favourable outcomes of getting total score at least 6 are 15

Hence P (getting total score at least 6) = $\frac{15}{36} = \frac{5}{12}$

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