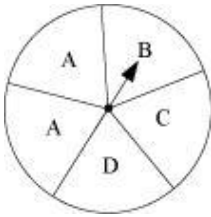## CLASS VIII: Maths
Chapter 4: Data Handling

Questions and Solutions | Exercise 4.2 - NCERT Books

Q1. List the outcomes you can see in these experiments.

(a) Spinning a wheel

(b) Tossing two coins together

Answer :

(a) On spinning the given wheel, the possible outcomes are A, B, C, D.

(b) By tossing two coins together, the possible outcomes are HT, TH, HH, TT where H and T represents Head and Tail of the coins respectively.

Q2 :

When a die is thrown, list the outcomes of an event of getting

(i) (a) a prime number (b) not a prime number

(ii) (a) a number greater than 5 (b) a number not greater than 5

Answer :

When a dice is thrown, the possible outcomes are 1, 2, 3, 4, 5, and 6.

(i) (a) Out of these outcomes, 2, 3, 5 are prime numbers. Hence, these are the outcomes of an event of getting a prime number on the face of a dice.

(b) Out of these outcomes, 1, 4, 6 are not prime numbers. Hence, these are the outcomes of an event of not getting a prime number on the face of a dice.

(ii) (a) Out of these outcomes, a number greater than 5 is possible when 6 comes on the face of the dice.
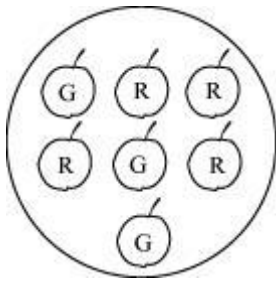
(b) Out of these outcomes, a number not greater than 5 is possible when the number on the face of the dice is any one of the outcomes 1, 2, 3, 4, 5.

Q3 :

Find the.

(a) Probability of the pointer stopping on D in (Question 1 - (a))

(b) Probability of getting an ace from a well shuffled deck of 52 playing cards

(c) Probability of getting a red apple. (See figure below)

Answer :

(i) The pointer can stop at one of the following regions.

A, A, B, C, D

Out of these 5 cases, it is possible only in 1 case that the pointer will stop at region D.

Therefore, probability that the pointer will stop at region D = $\dfrac{1}{5}$

(ii) There are 52 cards in a deck of cards and there are 4 ace cards in 1 deck of cards.

Probability of getting an ace card = $\dfrac{4}{52} = \dfrac{1}{13}$

(iii) There are a total of 7 apples, out of which, 4 are red and 3 are green.

Probability of getting a red apple = $\dfrac{4}{7}$

Q4 :

Numbers 1 to 10 are written on ten separate slips (one number on one slip), kept in a box and mixed well. One slip is chosen from the box without looking into it. What is the probability of.

(i) getting a number 6

(ii) getting a number less than 6

(iii) getting a number greater than 6

(iv) getting a 1-digit number

Answer :

(i) There are 10 slips in the box. However, 6 is written only on 1 slip.

Probability of getting a number 6 = $\dfrac{1}{10}$

(ii) The numbers less than 6 are 1, 2, 3, 4, 5.

Probability of getting a number less than 6 = $\dfrac{5}{10} = \dfrac{1}{2}$

(iii) The numbers greater than 6 are 7, 8, 9, 10.

Probability of getting a number greater than 6 = $\dfrac{4}{10} = \dfrac{2}{5}$

(iv) There are 9 numbers which are single digit numbers.

1, 2, 3, 4, 5, 6, 7, 8, 9

Probability of getting a single digit number = $\dfrac{9}{10}$

Q5 :
If you have a spinning wheel with 3 green sectors, 1 blue sector and 1 red sector, what is the probability of getting a green sector What is the probability of getting a non blue sector

Answer :

Total sectors = 3 + 1 + 1 = 5

There are 5 sectors and we can get a green sector in three cases.

Probability of getting a green sector = $\dfrac{3}{5}$

We will get a non blue sector when we will get either a green sector or a red sector. Hence, 4 cases of such type are possible in which we will get a non blue sector.

Probability of getting a non blue sector = $\dfrac{4}{5}$

Q6 :

Find the probabilities of the events given in Question 2.

Answer :

(i) (a) Out of 6 possible outcomes, a prime number can be obtained in three cases. Therefore,

probability of getting a prime number = $\dfrac{3}{6} = \dfrac{1}{2}$

(b) Out of 6 possible outcomes, a prime number may not be obtained in three cases.

Therefore, probability of getting not a prime number = $\dfrac{3}{6} = \dfrac{1}{2}$

(ii) (a) Out of 6 possible outcomes, a number greater than 5 can be obtained in only 1 case.

Therefore, probability of getting a number greater than 5 = $\dfrac{1}{6}$

(b) Out of 6 possible outcomes, a number not greater than 5 can be obtained in 5 cases.

Therefore, probability of getting a number not greater than 5 = $\dfrac{5}{6}$