## Probability Ex 13.1 Q27

**Answer :**

GIVEN: Two customers are visiting a particular shop in the same week (Monday to Saturday). Each is equally likely to visit the shop on any one day as on another.

TO FIND: Probability that both will visit the shop on:

(i) The same day

(ii) Different days

(iii) Consecutive days

Two customers can visit the shop on two days in $6 \times 6 = 36$ ways.

Hence total number of ways =36

(i) Two customer can visit the shop on any day of the week i.e.

MONDAY, TUESDAY, WEDNESDAY, THURSDAY, FRIDAY, SATURDAY

Favorable number of ways = 6

We know that PROBABILITY = $\dfrac{\text{Number of favourable event}}{\text{Total number of event}}$

Hence probability of the customer visiting the shop on the same day = $\dfrac{6}{36} = \boxed{\dfrac{1}{6}}$

(ii) We know that sum of probability of occurrence of an event and probability of non occurrence of an event is 1.

$$P(E) + P(\overline{E}) = 1$$

$$\dfrac{1}{6} + P(\overline{E}) = 1$$

$$P(\overline{E}) = 1 - \dfrac{1}{6}$$

Hence probability of the customer visiting the shop on the different day is $\boxed{\dfrac{5}{6}}$

(iii) Two costumer can visit the shop in two consecutive days in the following ways:

(MONDAY, TUESDAY), (WEDNESDAY, THURSDAY), (THURSDAY, FRIDAY) (FRIDAY, SATURDAY)

Favorable number of ways =5

We know that PROBABILITY = $\dfrac{\text{Number of favourable event}}{\text{Total number of event}}$

Hence probability of the customer visiting the shop on two consecutive days = $\boxed{\dfrac{5}{36}}$

## Probability Ex 13.1 Q28

**Answer :**

GIVEN: In a class there are 18 girls and 16 boys, the class teacher wants to choose one name. The class teacher writes all pupils name on a card and puts them in basket and mixes well thoroughly .A child picks one card

TO FIND: The probability that the name written on the card is

(i) The name of a girl

(ii) The name of a boy

Total number of students in the class $18 + 16 = 34$

(i) Total numbers of girls are 18 hence favorable cases are 18

We know that PROBABILITY = $\dfrac{\text{Number of favourable event}}{\text{Total number of event}}$

Hence probability of getting a name of girl on the card picked = $\dfrac{18}{34} = \boxed{\dfrac{9}{17}}$

(ii) Total numbers of boys are 16 hence favorable cases are 16

We know that PROBABILITY = $\dfrac{\text{Number of favourable event}}{\text{Total number of event}}$

Hence probability of getting a name of boy on the card picked = $\dfrac{16}{34} = \boxed{\dfrac{8}{17}}$

## Probability Ex 13.1 Q29

**Answer :**

When we toss a coin then the outcomes have the same probability for its occurrence they are equally likely events. So, the result of an individual coin toss is completely unpredictable.

## Probability Ex 13.1 Q30

**Answer :**

GIVEN: A number is selected from the numbers 1,2,2,3,3,3,4,4,4

TO FIND: Probability that the selected number is the average of the numbers

Total numbers are 10

Average of numbers is

$$= \frac{1+2+2+3+3+3+4+4+4+4}{10}$$

$$= \frac{30}{10}$$

$$= 3$$

Total numbers of numbers which are average of these numbers are 3

We know that PROBABILITY $= \dfrac{\text{Number of favourable event}}{\text{Total number of event}}$

Hence Probability that the selected number is the average of the numbers $= \boxed{\dfrac{3}{10}}$

********** END *********

GIVEN: A number is selected from the numbers 1,2,2,3,3,3,4,4,4

TO FIND: Probability that the selected number is the average of the numbers

Total numbers are 10

Average of numbers is

$$= \frac{1+2+2+3+3+3+4+4+4+4}{10}$$