

Question:1

A coin is tossed 300 times and we get head : 136 times and tail : 164 times.

When a coin is tossed at random, What is the probability of getting *i* a head, *ii* a tail?

Solution:

Total number of trials = 300

Number of times a head is obtained = 136

Number of times a tail is obtained = 164

$$i \text{ Probability of getting head} = \frac{\text{Number of times heads is obtained}}{\text{Total number of trials}} = \frac{136}{300} = \frac{34}{75}$$

$$ii \text{ Probability of getting a tail} = \frac{\text{Number of times tails is obtained}}{\text{Total number of trials}} = \frac{164}{300} = \frac{41}{75}$$

Question:2

Two coins are tossed simultaneously 200 times and we get two heads: 58 times, one head: 83 times: 0 head: 59 times.

When two coins are tossed at random, what is the probability of getting *i* 2 heads, *ii* 1 head, *iii* 0 head?

Solution:

Total number of trials = 200

Number of times 2 heads are obtained = 58

Number of times one head is obtained = 83

Number of times no head is obtained = 59

$$i \text{ Probability of getting 2 heads} = \frac{\text{Number of times 2 heads have been obtained}}{\text{Total number of trials}} = \frac{58}{200} = \frac{29}{100}$$

$$ii \text{ Probability of getting 1 head} = \frac{\text{Number of times 1 head has been obtained}}{\text{Total number of trials}} = \frac{83}{200}$$

$$iii \text{ Probability of getting 0 head} = \frac{\text{Number of times head has not been obtained}}{\text{Total number of trials}} = \frac{59}{200}$$

Question:3

A dice is thrown 100 times and the outcomes are noted as given below:

Outcome	1	2	3	4	5	6
Frequency	21	14	18	15	23	9

When a dice is thrown at random, what is the probability of getting a *i* 3, *ii* 6, *iii* 6, *iv* 1?

Solution:

Total number of trials = 100

Number of times 3 is obtained = 18

Number of times 6 is obtained = 9

Number of times 4 is obtained = 15

Number of times 1 is obtained = 21

$$(i) \text{ Probability of getting a 3} = \frac{\text{Number of times 3 is obtained}}{\text{Total number of trials}} = \frac{18}{100} = \frac{9}{50} \quad (ii) \text{ Probability of getting a 6} = \frac{\text{Number of times 6 is obtained}}{\text{Total number of trials}} = \frac{9}{100} \quad (iii) \text{ Probability of getting a 4} = \frac{15}{100} = \frac{3}{20} \quad (iv) \text{ Probability of getting a 1} = \frac{21}{100}$$

Question:4

In a survey of 100 ladies it was found that 36 like coffee while 64 dislike it.

Out of these ladies, one is chosen at random. What is the probability that the chosen lady *i* likes coffee, *ii* dislikes coffee?

Solution:

Total number of ladies surveyed = 100

Ladies who like coffee = 36

Ladies who do not like coffee = 64

$$(i) \text{ Probability of choosing a lady who likes coffee} = \frac{\text{Number of ladies who like coffee}}{\text{Total number of ladies}} = \frac{36}{100} = \frac{9}{25} \quad (ii) \text{ Probability of choosing a lady who dislikes coffee} = \frac{64}{100} = \frac{16}{25}$$