



Coin Experiments

(i) Tossing a Coin : Sample Space = { Head, Tail } = { H, T }

(ii) Tossing two Coins : Sample Space = {HH, HT, TH, TT}

Two coins are tossed simultaneously. Find the probability of getting

- i). at least one head
- ii). at most one head
- iii). exactly two head
- iv). exactly one head
- v). no head

(iii) Tossing three Coins:

Sample Space = {HHH, HHT, HTH, THH, HTT, THT, TTH, TTT}

Three coins are tossed simultaneously.

What is the probability of getting

- i). exactly two heads
- ii). at least two heads
- iii). at most two heads
- iv). one head or two heads
- v). exactly one tail

Logical Reasoning Questions

1. Find the probability of getting 53 Mondays or 53 Tuesday in an ordinary year.
2. What is the probability that an ordinary year has 53 Sundays?
3. Find the probability of getting 53 Fridays in a leap year.
4. Find the probability of getting 53 Fridays or 53 Saturdays in a leap year.

Qn5) 250 lottery tickets were sold and there are 5 prizes on these tickets. If Mahesh purchased one lottery ticket, what is the probability that he wins a prize?

Qn6) The record of a weather station shows that out of the past 250 consecutive days, its weather forecasts were correct 175 times.

- (i) What is the probability that on a given day it was correct?
- (ii) What is the probability that it was not correct on a given day?

Qn7) A lot consists of 144 ball pens of which 20 are defective and the others are good. Nuri will buy a pen if it is good, but will not buy if it is defective. The hop keeper draws one pen at random and gives it to her. What is the probability that (i) She will buy it ?

(ii) She will not buy it ?

Qn8) A box contains 5 red marbles, 8 white marbles and 4 green marbles. One marble is taken out of the box at random. What is the probability that the marble taken out will be

- (i) red ?
- (ii) white ?
- (iii) not green?

Qn9) Savita and Hamida are friends. What is the probability that both will have

- (i) different birthdays?
- (ii) the same birthday? (ignoring a leap year).

Qn10) 12 defective pens are accidentally mixed with 132 good ones. It is not possible to just look at a pen and tell whether or not it is defective. One pen is taken out at random from this lot. Determine the probability that the pen taken out is a good one.

Qn11) A piggy bank contains hundred 50p coins, fifty Re 1 coins, twenty Rs 2 coins and ten Rs 5 coins. If it is equally likely that one of the coins will fall out when the bank is turned upside down, what is the probability that the coin

- (i) will be a 50 p coin ?
- (ii) will not be a Rs 5 coin?

Dice Experiment

Throwing 1 Dice: Sample Space = {1, 2, 3, 4, 5, 6}

An unbiased die is thrown. What is the probability of getting

- a). an even number
- b). a multiple of 3
- c). a multiple of 2 or 3
- d). a number less than 5 divisible by 2.
- e). a number greater than 2 divisible by 3.
- f). an even number or a multiple of 3
- g). an even number and a multiple of 3

Throwing 2 Dice:

		White Die					
		1	2	3	4	5	6
Red Die	1	(1,1)	(2,1)	(3,1)	(4,1)	(5,1)	(6,1)
	2	(1,2)	(2,2)	(3,2)	(4,2)	(5,2)	(6,2)
	3	(1,3)	(2,3)	(3,3)	(4,3)	(5,3)	(6,3)
	4	(1,4)	(2,4)	(3,4)	(4,4)	(5,4)	(6,4)
	5	(1,5)	(2,5)	(3,5)	(4,5)	(5,5)	(6,5)
	6	(1,6)	(2,6)	(3,6)	(4,6)	(5,6)	(6,6)





















































Two dice are thrown simultaneously. Find the probability of getting

- a). an even number on first dice
- b). an odd number on first dice
- c). an even number as the sum
- d). a multiple of 5 as the sum
- e). a multiple of 7 as the sum

- f). a multiple of 3 as the sum
- g). a sum more than 7
- h). a sum greater than 9
- i). neither the sum 9 nor the sum 11 as the sum
- j). a sum less than 6
- k). a sum less than 7
- l). a sum more than 7
- m). a multiple of 3 on one dice
- n). a multiple of 2 on one dice
- o). a multiple of 5 on one dice
- p). a multiple of 2 on one dice and a multiple of 3 on the other
- q). a doublet
- r). the sum greater than equal to 10
- s). the sum less than or equal to 10
- z). the sum as a prime number
- t). a doublet of prime number
- u). a number other than 5 on any dice

Playing Card Questions

Example set of 52 poker playing cards

Suit	Ace	2	3	4	5	6	7	8	9	10	Jack	Queen	King
Clubs													
Diamonds													
Hearts													
Spades													

- a. an ace card
- b. a red card
- c. either red or king card
- d. red and a king
- e. '2' of spades
- f. '10' of a black suit
- g. a queen of black suit
- h. either a black card or a king
- i. black and king card
- j. a jack, queen or a king
- k. a heart card
- l. a queen card
- m. the ace of spades
- n. the seven of clubs
- o. a ten
- p. a black card
- q. neither a heart nor a king
- r. neither an ace nor a king
- s. neither a red card nor a queen card
- t. a face card or an ace
- u. a face card or a black card
- v. a face card and a black card
- w. neither a face card nor an ace
- x. neither a face card nor '10' card
- y. either a king or red card
- z. either an ace or black card
- aa. an ace and a black card
- bb. a king of red colour card
- cc. a face card
- dd. a red face card

BAG BALLS BASED QUESTIONS

A bag contains 9 blue, 4 black, 5 red and 7 white balls. One ball is taken out of the bag and found red ball then again one ball is taken out at random from the remaining. What is the Probability that it will be

1. black?
2. blue?
3. red?
4. white?
5. black or blue?
6. white or blue?
7. red or blue?
8. white or red?
9. neither blue ball nor red ball?
10. neither red ball nor white ball?
11. neither blue ball nor black ball?
12. not blue ball?
13. not red ball?
14. not white ball?
15. not black ball?

NUMBER BASED QUESTIONS

box contains 20 balls bearing numbers 1,2,3, 20 respectively. A ball is drawn at random from the box, Find the probability that the number is

- a). a two-digit number
- b). a perfect square number
- c). a number divisible by 5.
- d). a number divisible by 2 or 3.
- e). a number divisible by 2 and 3.
- f). a number divisible by 7.
- g). a number multiple of 8.
- h). a two digit number divisible by 5.
- i). a two digit number divisible by 2.
- j). a two digit number divisible by 3.
- k). a two digit number divisible by 4.
- l). a two digit number perfect square.
- m). a perfect cube number.
- n). a prime number.
- o). neither divisible by 5 nor 10.
- p). neither divisible by 2 nor 5.
- q). neither divisible by 3 nor 5.
- r). a two digit prime number.
- s). an even prime number.
- t). a number is not divisible by 5.