

PROBABILITY (CREATIVE QUESTIONS)

- An unbiased die is thrown, what is the probability of getting
 - an even number or a multiple of 3
 - a number 3 or 4
 - a number greater than 3
 - an even number
- Two unbiased coins are tossed simultaneously. Find the probability of getting
 - two heads.
 - one tail.
 - at least one tail
 - at most one tail.
 - no tail
- Three unbiased coins are tossed together. Find the probability of getting:
 - All heads.
 - Two heads.
 - one head.
 - at least two heads
- A game consists of tossing a one rupee coin 3 times and noting its outcome each time. Hanif wins if all the tosses give the same result i.e., three heads or three tails, and loses otherwise. Calculate the probability that Hanif will lose the game.
- Two dice are thrown simultaneously. Find the probability of getting:
 - The sum as a prime number.
 - A total of at least 10.
 - A doublet of even number.
 - A multiple of 2 on one die and a multiple of 3 on the other die.
 - A multiple of 3 as the sum.
- Peter throws two different dice together and finds the product of the two numbers obtained. Rina throws a die and squares the number obtained. Who has the better chance to get the number 25?
- A die thrown. Find the probability of getting :
 - a prime number.
 - 2 or 4.
 - a multiple of 2 or 3
 - an even prime number.
 - a number greater than 5
 - a number lying between 2 and 6.
 - a composite number
- Two unbiased dice are thrown. Find the probability that the total of the numbers on the dice is greater than 10.
- A box contains 20 cards numbered from 1 to 20. A card is drawn at random from the box. Find the probability that the number on the drawn card is
 - divisible by 2 or 3
 - a prime number
- A bag contains 3 red balls, 5 black balls and 4 white balls. A ball is drawn at random from the bag. What is the probability that the ball drawn is:
 - white
 - red
 - black
 - not red
- A bag contains cards numbered from 1 to 49. A card is drawn from the bag at random, after mixing the card thoroughly. Find the probability that the number on the drawn card is
 - an odd number
 - a multiple of 5
 - a perfect square
 - an even prime number
- A piggy bank contains a hundred 50 paise coins, fifty Rs. 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, find the probability that the coin which fell
 - will be a 50 paise coin
 - will be of value more than Rs. 1
 - will be of value less than Rs. 5
 - will be Rs. 1 or Rs. 2 coin

13. Cards numbered 1 to 30 are put in a bag. A card is drawn at random from this bag. Find the probability that the number on the drawn card is
 (i) not divisible by 3 (ii) a prime number greater than 7 (iii) not a perfect square number
14. A bag contains 4 red, 5 black and 6 white balls. A ball is drawn from the bag at random. Find the probability that the ball drawn is:
 (i) white (ii) red (iii) not black (iv) red or white
15. A group consists of 12 persons, of which 3 are extremely patient, other 6 are extremely honest and rest are extremely kind. A person from the group is selected at random. Find the probability that the selected person is (i) extremely patient (ii) extremely kind or honest. Which of the above you will prefer more.
16. A box contains cards numbered 3,5,7,9,.....35,37. A card is drawn at random from the box. Find the probability that the number on the drawn card is a prime number.
17. A bag contains 5 red, 8 white and 7 black balls. A ball is drawn at random from the bag. Find the probability that the drawn ball is (i) red or white (ii) not black (iii) neither white nor black.
18. Find the probability that a number selected from the number 1 to 25 is not a prime number when each of the given numbers are equally likely to be selected.
19. A box contains 100 red cards, 200 yellow cards and 50 blue cards. If a card is drawn at random from the box, then find the probability that it will be (i) a blue card (ii) not a yellow card (iii) neither yellow nor a blue card.
20. Find the probability that a number selected at random from the numbers 1,2,3,.....,35 is a
 (i) prime number (ii) multiple of 7 (iii) a multiple of 3 or 5
21. A bag contains tickets numbered 11,12,13,.....30. A ticket is taken out from the bag at random. Find the probability that the number on the drawn ticket (i) is a multiple of 7 (ii) is greater than 15 and a multiple of 5.
22. Cards marked with numbers 13,14,15,.....,60 are placed in a box and mixed thoroughly. One card is drawn at random from the box. Find the probability that number on the card drawn is. (i) divisible by 5 (ii) a number is a perfect square
23. In a simultaneous throw of a pair of dice, find the probability & getting :
 (i) 8 as the sum. (ii) a doublet. (iii) a doublet of prime numbers
 (iv) a doublet of odd numbers. (v) a sum greater than 9
 (vi) an even number on first. (vii) an even number on one and a multiple of 3 on the other
 (viii) neither 9 nor 11 as the sum of the numbers on the faces
 (ix) a sum less than 6. (x) a sum less than 7 (xi) a sum more than 7.
 (xii) neither a doublet nor a total of 1 (xiii) odd number on the first and 6 on the second
 (xiv) a number greater than 4 on each dice. (xv) a total of 9 or 11 . (xvi) a total greater than 8.
24. What is the probability that a leap year has 53 Tuesdays and 53 Mondays?
25. A black die and a white die are thrown at the same time. Write all the possible outcomes. What is the probability:
 (i) that the sum of the two numbers that turn up is 8 (ii) of obtaining a total 6
 (iii) of obtaining a total of 10. (iv) of obtaining the same number on both dice
 (v) of obtaining a total of more than 9
 (vi) that the sum of the two numbers appearing on the top of the dice is 13
 (vii) that the sum of the numbers appearing on the top of the dice is less than or equal to 12
 (viii) that the product of numbers appearing on the top of the dice is less than 9
 (ix) that the difference of the numbers appearing on the top of the two dice is 2

- 26.** All red face cards are removed from a pack of playing cards. The remaining cards are well shuffled and then a card is drawn at random from them. Find the probability that the drawn card is (i) a red card (ii) a face card and (iii) a card of clubs
- 27.** In a bag there are 44 identical cards with figure of circle or square on them. There are 24 circles, of which 9 are blue and rest are green and 20 squares of which 11 are blue and rest are green. One card is drawn from the bag at random. Find the probability that it has the figure of (i) square (ii) green colour (iii) blue circle and (iv) green square
- 28.** All kings and queens are removed from a pack of 52 cards. The remaining cards are well-shuffled and then a card is randomly drawn from it. Find the probability that this card is (i) a red face card (ii) a black card
- 29.** The king, queen and jack of clubs are removed from a deck of 52 playing cards and the remaining cards are shuffled. A card is drawn from the remaining cards. Find the probability of getting a card of (i) heart (ii) queen (iii) clubs (iv) a face card (v) a queen of diamond.
- 30.** A letter of English alphabet is chosen at random, then the probability that the letter is a consonant.