

Class :X

Question bank

Subject :Mathematics

Chapter :Probability

1. A bag contains 9 black and 12 white balls. One ball is drawn at random. What is the probability that the ball drawn is black?
2. Find the probability that a number selected from the numbers 1 to 25 which is not a prime number when each of the given number is equally likely to be selected.
3. A bag contains 10 red, 5 blue and 7 green balls. A ball is drawn at random. Find the probability of this ball being not a blue ball.
4. Two dice are thrown at the same time and the product of numbers appearing on them is noted. Find the probability that the product is less than 9.
5. Cards, marked with numbers 5 to 50, are placed in a box and mixed thoroughly. A card is drawn from the box at random. Find the probability that the number on the taken out card is:
 - (i) a prime number less than 10.
 - (ii) a number which is a perfect square.
6. Two dice are thrown simultaneously. What is the probability that
 - (i) 5 will not come up on either of them?
 - (ii) 5 will come up on at least one?
 - (iii) 5 will come up at both dice?
7. From a well shuffled pack of playing cards, black jacks, black kings and black aces are removed. A card is then drawn from the pack. Find the probability of getting.
 - (i) a red card
 - (ii) not a diamond card.
8. A bag contains cards which are numbered from 2 to 90. A card is drawn at random from the bag. Find the probability that it bears.
 - (i) a two-digit number
 - (ii) a number which is a perfect square.
9. 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.
10. Two different dice are tossed together. Find the probability:
 - (i) That the numbers on either die is even.
 - (ii) That the sum of numbers appearing on the two dice is 5.
11. Cards each marked with one of the numbers 6, 7, 8, ..., 15 and placed in a box and mixed thoroughly. One card is drawn at random from the box. What is the probability of getting a card with number less than 10?
12. A card is drawn at random from a well-shuffled deck of 52 cards. What is the probability of getting a black king?
13. What is the probability that two different friends have different birthdays? (ignoring leap year).
14. A box contains 3 blue, 2 white and 4 red marbles. If a marble is drawn at random from the box, what is the probability that it will not be a white marble?
15. From a well-shuffled pack of cards, a card is drawn at random. Find the probability of getting a black queen.
16. A bag contains 4 red and 6 black balls. A ball is taken out of the bag at random. Find the probability of getting a black ball.
17. A die is thrown once. Find the probability of getting a number less than 3.

- 18.** A die is thrown once. Find the probability of getting a number greater than 5.
- 19.** Cards bearing numbers 3 to 20 are placed in a bag and mixed thoroughly. A card is taken out from the bag at random. What is the probability that the number on the card taken out is an even number?
- 20.** Two friends were born in the year 2000. What is the probability that they have the same birthday?
- 21.** A box contains cards marked with numbers 5 to 20. A card is drawn from the bag at random. Find the probability of getting a number which is a perfect square.
- 22.** Two dice are thrown at the same time. Find the probability of getting different numbers on the dice.
- 23.** Cards with numbers 2 to 101 are placed in a box. A card is selected at random. Find the probability that the card has a square number.
- 24.** In a game of chance there is spinning of an arrow which comes to rest pointing at one of the numbers 1, 2, 3, 4, 5, 6, 7, 8 and there are equally likely outcomes. What is the probability that it will point at (i) 7? (ii) an odd number? (iii) a number less than 9?
- 25.** 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.
- 26.** Find the probability that a number selected at random from numbers 3, 4, 5, ..., 25 is prime.
- 27.** The king, queen and jack of diamonds are removed from a pack of 52 cards are then the pack is well-shuffled. A card is drawn from the remaining cards. Find the probability of getting a card of
 (i) diamonds
 (ii) a Jack
- 28.** A bag contains 5 red, 4 blue and 3 green balls. A ball is taken out of the bag at random. Find the probability that the selected ball is (i) of red colour (ii) not of green colour.
- 29.** A card is drawn at random from a well-shuffled deck of playing cards. Find the probability of drawing a (i) face card (ii) card which is neither a king nor a red card.
- 30.** 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.
- 31.** Cards each marked with one of the numbers 6, 7, 8, ..., 15 and placed in a box and mixed thoroughly. One card is drawn at random from the box. What is the probability of getting a card with number less than 10?
- 32.** A card is drawn at random from a well-shuffled deck of 52 cards. What is the probability of getting a black king?
- 33.** What is the probability that two different friends have different birthdays? (ignoring leap year).
- 34.** A box contains 3 blue, 2 white and 4 red marbles. If a marble is drawn at random from the box, what is the probability that it will not be a white marble?

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