

VAISHALI EDUCATION POINT

(QUALITY EDUCATION PROVIDER)

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PROBABILITY

Class :- X

Subject :- Maths

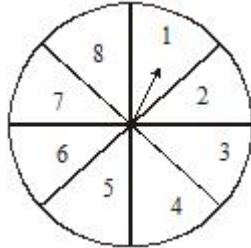
General Instructions

QNo.

Questions

1

A game of chance consists of spinning an arrow which comes to rest pointing at one the number 1, 2, 3, 4, 5, 6, 7, 8 and these an equally likely out comes. What is the probability that it will point to. (a) 8? (b) an odd number? (c) a number



less than 9?

2

Two customers Shyam and Ekta are visiting a particular shop in the same week (Tuesday to Saturday). Each is equally likely to visit the shop on any day as on another day. What is the probability that both will visit the shop on (i) the same day? (ii) consecutive day? (iii) different day?

3

100 cards marked with numbers 2 to 101 are placed in a bag and mixed thoroughly. Suneeta drawn a card from the bag. Find the probability that the number on the card is (a) an odd number (b) a prime number less than 50 (c) a number which is a perfect square

4

A large firm employs 4000 people. One person is chosen at random. What is the probability that person's birthday is on Sunday in year 2004 ?

5

The number of matchsticks in each of 30 boxes is found to have the following distribution:

| Number of matchsticks | Number of boxes |
|-----------------------|-----------------|
| 46 | 2 |
| 47 | 8 |
| 48 | 10 |
| 49 | 3 |
| 50 | 7 |

What is the probability that a box selected at random will contain 50 matchsticks?

6

A coin is tossed two times. Find the probability of getting at least one head. **(2011)**

7

Cards bearing numbers 1, 3, 5, ..., 35 are kept in a bag. A card is drawn at random from the bag. Find the probability of getting a card bearing **(2010)**
(i) a prime number less than 15.
(ii) a number divisible by 3 and 5.

8

Cards with numbers 2 to 101 are placed in a box. A card is selected at random from the box. Find the probability that the card which is selected has a number which is a perfect square. **(2010)**

9

A coin is tossed two times. Find the probability of getting both heads or both tails. **(2011)**

10

Out of 400 bulbs in a box, 15 bulbs are defective. One bulb is taken out at random from the box. Find the probability that the drawn bulb is not defective.

11

In a simultaneous toss of four coins, what is the probability of getting:

| | |
|----|---|
| | <p>(a) less than 2 heads? (b) exactly 2 heads? (c) more than 2 heads?</p> |
| 12 | <p>In a simultaneous toss of four coins, what is the probability of getting: (a) less than 2 heads? (b) exactly 2 heads? (c) more than 2 heads?</p> |
| 13 | <p>A card is drawn from a well-shuffled pack of 52 cards. What is the probability that (a) it is an ace (b) it is ace of hearts?</p> |
| 14 | <p>One card is drawn from a well-shuffled deck of 52 playing cards. Find the probability of getting: (i) a non-face card (ii) A black king or a red queen.</p> |
| 15 | <p>A card is drawn at random from a pack of 52 playing cards. Find the probability that the card drawn is (i) neither an ace nor a king (ii) neither a red card nor a black king.</p> |
| 16 | <p>A bag contains 5 red balls, 8 green balls and 7 white balls. One ball is drawn at random from the 2 bag. Find the probability of getting: (i) a white ball or a green ball (ii) neither a green ball nor a red ball.</p> |
| 17 | <p>A die is thrown once. Find the probability of getting (i) a prime number. (ii) a number divisible by 2.</p> |
| 18 | <p>A die is thrown once. Find the probability of getting (i) an even prime number. (ii) a multiple of 3.</p> |
| 19 | <p>A die is thrown once. Find the probability of getting (i) a number greater than 3. (ii) a number less than 5.</p> |
| 20 | <p>A die is thrown twice. Find the probability of getting (i) doublets (ii) prime number on each die.</p> |
| 21 | <p>An unbiased die is thrown. What is the probability of getting (i) an even number or a multiple of 3? (ii) an odd number and a multiple of 3?</p> |
| 22 | <p>What is the probability that a number selected from the numbers 1, 2, 3, ... 25 is (i) a prime number (ii) not a prime number? You may assume that each of the 25 numbers is equally likely to be selected.</p> |
| 23 | <p>A card is drawn from a well shuffled deck of playing-cards. Find the probability of drawing (i) a face card (ii) red face card (iii) black face card.</p> |
| 24 | <p>All the three face cards of spades are removed from a well-shuffled pack of 52 cards. A card is then drawn at random from the remaining pack. Find the probability of getting:</p> |

- (i) a black face card
- (ii) a queen
- (iii) a black card.

- 25 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) hearts
 - (ii) queen
 - (iii) clubs.
- 26 A card is drawn at random from a pack of 52 cards. Find the probability that card drawn is
- (i) red and a king
 - (ii) either red or king
 - (iii) neither heart nor a king.
- 27 A card is drawn at random from a pack of 52 cards. Find the probability that card drawn is
- (i) red and a king
 - (ii) either red or king
 - (iii) neither heart nor a king.
- 28 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.
- 29 A bag contains 9 red, 7 white and 4 black balls. A ball is drawn at random. What is the probability that the ball drawn will be
- (a) red
 - (b) black
 - (c) white or black.
- 30 A bag contains 6 red balls, 8 white balls, 5 green balls and 3 black balls. One ball is drawn at random from the bag. Find the probability that the ball is
- (i) white
 - (ii) red or black
 - (iii) not green
 - (iv) neither white nor black.
- 31 A bag contains 5 white balls, 7 red balls, 4 black balls and 2 blue balls. One ball is drawn at random from the bag. What is the probability that the ball drawn is
- (i) white or blue
 - (ii) red or black
 - (iii) not white.
- 32 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 both dice?
- 33 A box contains 30 cards, numbered from 1 to 30. A card is drawn from the box at random. Find the probability that the number on the drawn card is
- (i) even
 - (ii) prime
 - (iii) multiple of 7.
- 34 17 cards numbered 1, 2, 3, ..., 16, 17 are put in a box and mixed throughly. One person draws a card from the box. Find the probability that the number on the card is:
- (i) odd

| | |
|----|---|
| | (ii) divisible by 3 (iii) divisible by 3 and 2 both. |
| 35 | A card is drawn at random from a well shuffled deck of 52 cards. Find the probability of getting. (i) a queen (ii) a diamond (iii) a king or an ace (iv) a red ace. |
| 36 | One card is drawn from a pack of 52 cards, each of the 52 cards being equally likely to be drawn. Find the probability that : (i) The card drawn is red (ii) The card drawn is red and queen (iii) The card drawn is spade or a club (iv) The card drawn is Jack, queen, king or an ace (v) The card drawn is ace of hearts. |
| 37 | From a pack of 52 playing cards, Jacks, queens, Kings and Aces of red colour are removed. From the remaining, a card is drawn at random. Find the probability that the card drawn is (i) a black queen (ii) a red card (iii) a black jack (iv) a picture card (jacks, queens and kings are picture cards) |
| 38 | A die is thrown once. Find the probability of getting (a) P(an even number) (b) P(a number 3) (c) P(a number 4) (d) P(a number < 7) (e) P(a number > 6). |
| 39 | In a single throw of pair of die what is the probability of getting (i) 8 as the sum? (ii) a doublet? (iii) a total of 9 or 11? (iv) two aces? (v) at least one ace? (vi) five-six(i.e. one die comes up with five and the other with six)? (vii) a multiple of 2 on one and a multiple of 3 on the other? |