MATHS

BOOKS - EDUCART PUBLICATION

STATISTICS AND PROBABILITY

Objective Questions Multiple Choice Questions

1. A bag contains 3 red, 5 black and 7 white balls. A ball is drawn from the bag at random.

The probability that the ball drawn is not black, is

A. $\frac{1}{3}$

B. $\frac{9}{15}$

C. $\frac{5}{10}$

D. $\frac{2}{3}$

Answer: D

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2. The mean and mediam of a distribution are 14 and 15, respectively. The value of the mode is:

A. 16

B. 17

C. 18

D. 13

Answer: B

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3. While computing the mean of grouped data, we assume that the frequencies are:

A. evenly distributed over all the classes.

B. centred at the classmarks of the classes.

C. centred at the upper limits of the classes.

D. centred at the lower limits of the classes.

Answer: B

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4. If x_i's are the mid-points of the class intervals of the grouped data, f_i's are the corresponding frequencies and $\bar{x}$ is the mean, then $(f_i x_i - \bar{x})$ is equal to :

A. 0

B. -1

C. 1

D. 2

Answer: A

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5. Consider the data:

The difference of the upper limit of the modal class is:

Class	Frequency
65-85	4
85-105	5
105-125	13
125-145	20
145-165	14
165-185	7
185-205	4

A. 0

B. 19

C. 20

D. 38

Answer: C

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6. The times, in seconds, taken by 150 atheletes to run a 110 m hurdle race tabulated below:

The number of atheletes who completed the

race in less then 14.6 seconds is:

Class	Frequency
13.8-14	2
14-14.2	4
14.2-14.4	5
14.4-14.6	71
14.6-14.8	48
14.8-15	20

A. 11

B. 71

C. 82

D. 130

Answer: C

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7. Consider the following frequency distribution of the heights of 60 students of a class:

The upper limit of the median class in the given data is:

Height (in cm)	150-155	155-160	160-165
No of students	15	13	10

Height (in cm)	165-170	170-175	175-180
No of students	8	9	5

A. 165

B. 155

C. 160

D. 170

Answer: A

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8. If an event cannot occur, then its probability is:

A. 1

B. $\frac{3}{4}$

C. $\frac{1}{2}$

D. 0

Answer: D

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9. Which of the following cannot be the probability of an event?

A. $\frac{1}{3}$

B. 0.1

C. 3%

D. $\frac{17}{16}$

Answer: D

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10. If P(E) = 0.005, then the probability of "not E" is:

A. 0.05

B. 0.5

C. 0.995

D. 0.95

Answer: C

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11. The probability expressed as a percentage of a particular occurrence can never be:

A. less than 100

B. less than 0

C. greater than 1

D. anything but a whole number

Answer: B

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12. If P(a) denotes the probability of an event a, then:

A. $P(a) < 0$

B. $P(a) > 1$

C. $0 \leq P(a) \leq 1$

D. $-1 \leq P(a) \leq 0$

Answer: C

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13. A number from numbers 1 to 100 was chosen at random. What is the probability that this number is a prime number that lies between 75 and 85?

A. $\frac{1}{10}$

B. $\frac{1}{50}$

C. $\frac{1}{25}$

D. $\frac{7}{100}$

Answer: B

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14. A card is selected from a deck of 52 cards.

The probability of its being a red face card is:

A. $\frac{3}{26}$

B. $\frac{3}{13}$

C. $\frac{2}{13}$

D. $\frac{1}{2}$

Answer: A

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15. When a die is thrown, the probability of getting an odd number less than 3 is:

A. $\frac{1}{6}$

B. $\frac{1}{3}$

C. $\frac{1}{2}$

D. 0

Answer: A

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16. The probability of getting a bad egg in a lot of 400 is 0.035. The number of bad eggs in the lot is:

A. 7

B. 14

C. 21

D. 58

Answer: B

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17. A girl calculates that the probability of her winning the first prize in a lottery is 0.08. If

6000 tickets are sold, how many tickets has she bought?

A. 40

B. 240

C. 480

D. 750

Answer: C

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18. One ticket is drawn at random from a bag containing tickets numbered 1 to 40. The probability that the selected ticket has a number which is a multiple of 5 is:

A. $\frac{1}{5}$

B. $\frac{3}{5}$

C. $\frac{4}{5}$

D. $\frac{1}{3}$

Answer: A

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View Text Solution

19. Someone is asked to take a number from 1 to 100. The probability that it is a prime is:

A. $\frac{1}{5}$

B. $\frac{6}{25}$

C. $\frac{1}{4}$

D. $\frac{13}{50}$

Answer: C

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20. A school has five houses A, B, C, D and E. A class has 23 students, 4 from house A, 8 from house B, 5 from house C, 2 from house D and the rest from house E. A single student is selected at random to be the class monitor. The probability that the selected student is not from A, B and C is:

A. $\frac{4}{23}$

B. $\frac{6}{23}$

C. $\frac{8}{23}$

D. $\frac{17}{23}$

Answer: B

View Text Solution

21. A set of numbers consists of three 4s, two 5s, six 6s, eight 8s and seven 10s. What is the mode of this collection of numbers?

A. 10

B. 7.5

C. 7

D. 8

Answer: D

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22. If a letter is chosen at random from the letter of English alphabet, then the probability that it is a letter of the word 'DELHI' is:

A. $\frac{1}{5}$

B. $\frac{1}{26}$

C. $\frac{5}{26}$

D. $\frac{21}{26}$

Answer: C

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23. A dice is thrown twice. The prabability of getting 4, 5 or 6 in the first throw and 1, 2, 3 or 4 in the second throw is:

A. $\frac{1}{3}$

B. $\frac{2}{3}$

C. $\frac{1}{2}$

D. $\frac{1}{4}$

Answer: A

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24. The median of a set of 9 distinct observations is 20.5. If each of the largest 4

observation of the set is increased by 2, then the median of the new set:

A. is increased by 2.

B. is decreased by 2.

C. is two times the original median.

D. remains the same as that of the original set.

Answer: D

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Objective Questions Fill In The Blanks

1. Fill in the below blanks/tables with suitable information:

The probability of an event that is sure to happen, is .....

View Text Solution

2. Fill in the below blanks/tables with suitable information:

If the probability of an event E happening is 0.023, then $P(\overline{E})$ = ...

View Text Solution

3. Fill in the below blanks/tables with suitable information:

A number is chosen at random from the numbers -5, -4, -3, -2, -1, 0, 1, 2, 3, 4, 5. Then the probability that square of this number is less than or equal to 1 is .....

View Text Solution

4. Fill in the below blanks/tables with suitable information:

Mode of observations 4, 3, 1, 2, 3, 4, 4 is .....

View Text Solution

5. Fill in the below blanks/tables with suitable information:

Number of face cards in a pack of 25 cards is .....

View Text Solution

6. Fill in the below blanks/tables with suitable information:

When a digit is choosen at random from the digits, 1 to 9, then the probability of this chosen digit to be a prime number is .....

View Text Solution

7. Fill in the below blanks/tables with suitable information:

The upper limit of the medium class of the following frequency distributions is .....

Class	0-5	6-11	12-17	18-23	24-29
Frequency	13	10	15	8	11

View Text Solution

8. Fill in the below blanks/tables with suitable information:

..... Is calculated using the formula:

$$l + \frac{\frac{N}{2} - cf}{f} \times b.$$

View Text Solution

9. Fill in the below blanks/tables with suitable information:

The probability of getting a number which is neigher prime nor composite in single throw of a dice is ..... .

View Text Solution

10. Fill in the below blanks/tables with suitable information:

Total number of outcomes in a single throw of three coins is .....

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Objective Questions Very Short Answer Type Questions

1. The mean and median of a distribution are both equal to 635.97 . Find the mode.

View Text Solution

2. Two dice are thrown simultaneously. What is the probability that the sum of the two numbers appearing on the top is 13?

View Text Solution

3. Find the class marks of the classes 15 - 35 and 45 - 60.

View Text Solution

4. A die is thrown once. What is the probability of getting a prime number.

View Text Solution

5. A pair of dice is thrown once. What is the probability of getting a doublet?

View Text Solution

6. A die is throw once. What is the probability of getting an even prime number?

View Text Solution

7. A letter of the English alphabet is chosen at random. What is the probability that the chosen letter is a consonant?

View Text Solution

8. A die is thrown once. What is the probability of getting a number less than 3?

View Text Solution

9. If the probability of wining a game is 0.07, what is, the probability of losing it?

View Text Solution

10. The probability of selecting a rotten apple randomly from a heap of 900 apples is 0.18. What is the number of rotten apples in the heap?

View Text Solution

11. A card is drawn at random from a well shuffled pack of 52 playing cards. Find the probability of getting neither a red card nor a queen.

View Text Solution

12. A bag contains 3 red and 5 black balls. A ball is drawn at random from the bag. What is the probability that the drawn ball is not red?

View Text Solution

13. Two different dice are tossed together. Find the probability that the product of the two numbers on the top of the dice is 6

View Text Solution

14. Write the empirical relationship among the three measures of central tendency mean, mode and median.

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15. Sarita buys a fish from a shop for her aquarium. The shopkeeper takes out a fish at random from a tank containing 10 male fish

and 12 female fish. What is the probability that the fish taken out is a female fish?

View Text Solution

16. A bag contains 5 red, 8 green and 7 white balls. One ball is drawn at random from the bag. Find the probability of getting neither a green ball nor a red ball.

View Text Solution

17. Find the class marks of the classes 20 - 50 and 35 - 60.

View Text Solution

18. Two dice are thrown simultaneously. What is the probability that the product of the number appearing on the top is 1?

View Text Solution

19. When we toss a coin, there are two possible outcome - heads or tails. Therefore, the probability of each outcome is $\frac{1}{2}$. Justify your answer.

View Text Solution

20. The mean of 20 observations is 12. If each observation is increased by 5, then find the new mean.

View Text Solution

21. A letter is chosen from the letters of the word MAINTENANCE. What is the probability that it is N?

View Text Solution

Short Answers Sa I Type Questions

1. What is the probability that a randomly taken leap year has 52 Sundays?

View Text Solution

2. A number is selected at random from natural numbers 1 to 20. Find the probability that the selected number is a prime number.

View Text Solution

3. A number is chosen at random from the number -3, -2, -1, 0, 1, 2, 3. What will be the probability that square of this number is less than or equal to 1?

View Text Solution

4. If two different coins are tossed together, then find the probability of getting two heads.

View Text Solution

5. A letter of the English alphabet is chosen at random. Find the probability that the chosen letter is a letter of the word 'Trignomerty.'

View Text Solution

6. 20 tickets, on which numbers 1 to 20 are written, are mixed thoroughly and then a ticket is drawn at random out of them. Find the probability that the number on the drawn ticket is a multiple of 3 or 7.

View Text Solution

7. Cards maked with number 3, 4, 5, ..., 50 are placed in a box mixed thoroughly. A card is drawn at random from the box. Find the

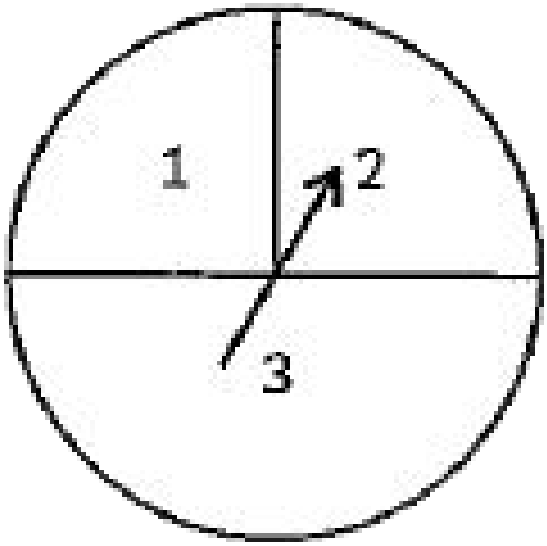
probability that the select card bears a perfect square number.

View Text Solution

8. In a family three children, there many be no girl, one girl, two girls or three girls. So, the probability of each is $\frac{1}{4}$. Is this correct? Justify your answer.

View Text Solution

9. A game consist of spinning an arrow which come to rest pointing at one of the three regions (1, 2 or 3) (see figure). Are the outcomes 1,2 and 3 equally likely to occur? Give reasons.



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10. find the mode of the following distribution:

Marks	0-10	10-20	20-30	30-40	40-50	50-60
Number of Students	4	6	7	12	5	6

View Text Solution

11. Find the mode of the following distributions :

Classes	0-20	20-40	40-60	60-80	80-100
Frequency	10	8	12	16	4

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12. I toss three coins together. The possible outcomes are no heads, 1 head, 2 heads and 3 heads. So, I say that probability of no heads is $\frac{1}{4}$. What is wrong with this conclusion?

View Text Solution

13. A bag contains slips numbered from 1 to 100. If Fatima chooses a slip at random from the bag, it will eigher be an odd number or an even number. Since this situations has only

two possible outcomes, so. The probability of each is $\frac{1}{2}$. Justify.

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14. A Group Housing Society has 600 meembers, who have their houses in the campus and decided to hold a Tree Plantation Drive on the occation of New Year. Each household was given the choice of planting a samplings of its choice of planting a samplings of its choice. The number of

different types of saplings planted were.

(i) Neem - 125

(ii) Peepal - 165

(iii) Creepers - 50

(iv) Fruit plants - 150

(v) Flowering plants - 150

On the opening ceremony. One of the plants is selected randomly for a prize. After reading the above passage, answer the following questions.

What is the probability that the selected plant is:

A fruit plant or a flowering plant?

View Text Solution

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(i) Neem - 125

(ii) Peepal - 165

(iii) Creepers - 50

(iv) Fruit plants - 150

(v) Flowering plants - 150

On the opening ceremony. One of the plants is selected randomly for a prize. After reading the above passage, answer the following questions.

What is the probability that the selected plant is:

Either a Neem plant or a Peepal plant ?

View Text Solution

16. Find the mode of the following frequency distribution:

Class	15-20	20-25	25-30	30-35	35-40	40-45
Frequency	3	8	9	10	3	2

View Text Solution

17. If a number x is chosen at random from the number -3, -2, -1, 0, 1, 2, 3, What is probability that $x^2 < 4$?

View Text Solution

18. If X, M and Z are denoting mean, median and mode of a data and X : M = 9 : 8, then the ratio M : Z is ?

View Text Solution

19. Find the mean of the following distribution:

Class	3-5	5-7	7-9	9-11	11-13
Frequency	5	10	10	7	8

View Text Solution

20. Find the mode of the following data:

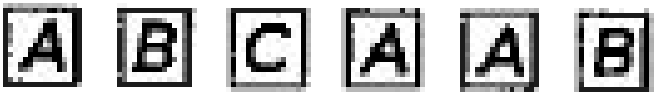
Class	0-20	20-40	40-60	60-80	80-100	100-120	120-140
Frequency	6	8	10	12	6	5	3

View Text Solution

21. A child has a die whose 6 faces show the letters given below:

The die is thrown once. What is the probability of getting

A

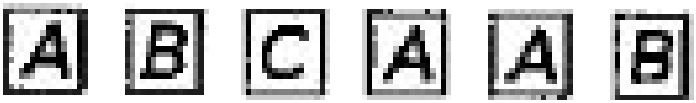


View Text Solution

22. A child has a die whose 6 faces show the letters given below:

The die is thrown once. What is the probability of getting

B?



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23. A card is drawn at random from a pack of 25 playing cards. Find the probability of drawing a card which is neither a spade nor a king.

View Text Solution

24. A die is thrown once. Find the probability of getting a number which

is a prime number

View Text Solution

25. A die is thrown once. Find the probability of getting a number which lies between 2 and 6.

View Text Solution

26. 20 cards from 11 to 30, are put in a box and mixed thoroughly. A card is then drawn from the box at random. Find the probability that the number on the drawn card is a prime number.

View Text Solution

27. Find the probability that in the leap year there will be 53 Tuesdays.

View Text Solution

28. Two different dice are thrown together. Find the probability that the product of the numbers appeared is less than 18.

View Text Solution

29. 15 cards numbered from 1 to 15 are put in a box and mixed thoroughly. Then, 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.

View Text Solution

30. An integer is chosen between 70 and 100, Find the probability that it is

a prime number

View Text Solution

31. An integer is chosen between 70 and 100, Find the probability that it is

divisible by 7

View Text Solution

32. Two different dice are tossed together. Find the probability:

of getting a doublet

View Text Solution

33. Two different dice are tossed together. Find the probability:

of getting a sum 10, of the numbers on the two dice.

View Text Solution

34. An integer is chosen at random between 1 and 100. Find the probability that it is:

divisible by 8.

View Text Solution

35. An integer is chosen at random between 1 and 100. Find the probability that it is:

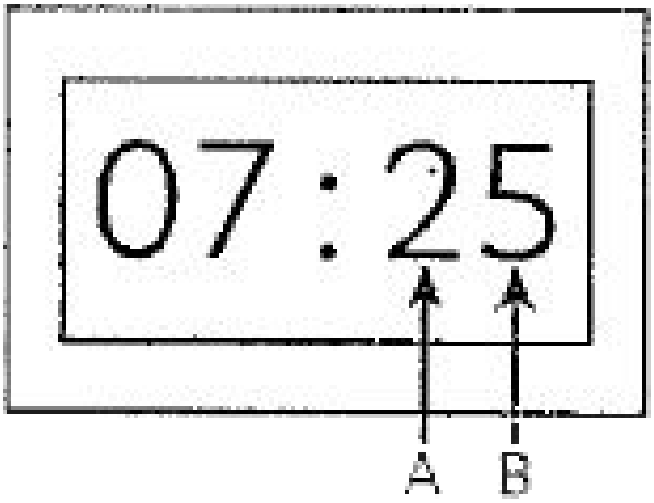
not divisible by 8.

View Text Solution

36. Amrish wakes up in the morning and notices. That his digital clock reads 07 : 25 am. After noon, he looks at the clock again.

What is the probability that:

the number in column A is a 4?



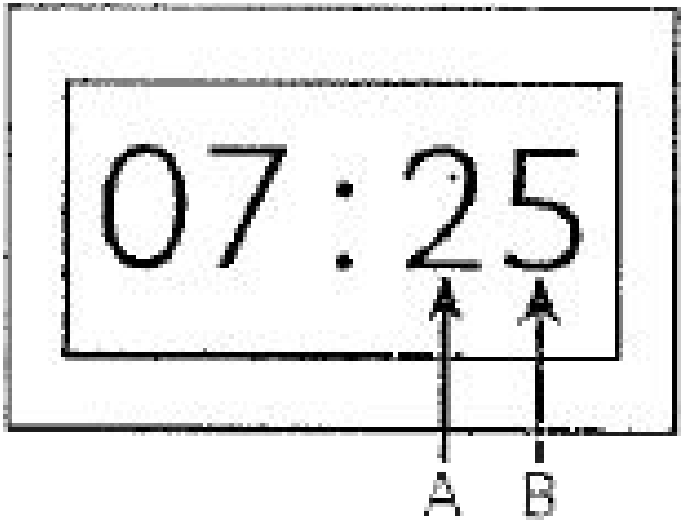
View Text Solution

37. Amrish wakes up in the morning and notices. That his digital clock reads 07 : 25 am.

After noon, he looks at the clock again.

What is the probability that:

the number in columnn B is an 8?



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38. A die is thrown twice. Find the probability that 5 will not come up either time.

View Text Solution

39. Cards marked with number 5 to 50 are placed in a box and mixed thoroughly. One card is drawn at random from the box. Find the probability that the number on the card taken out is

a prime number less than 10

View Text Solution

40. Cards marked with number 5 to 50 are placed in a box and mixed thoroughly. One card is drawn at random from the box. Find the probability that the number on the card taken out is

a number which is a perfect square.

View Text Solution

41. Find the mean of the distribution:

Class	1-3	3-5	5-7	7-10
Frequency	9	22	27	17

View Text Solution

42. Two dice are thrown at the same time. Find the probability of getting:

the same number on both dice.

View Text Solution

43. Two dice are thrown at the same time. Find the probability of getting:

different numbers on both dice.

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44. A coins tossed two times. Find the probability of getting at most one head.

View Text Solution

45. Two dices were rolled once. Find the probability of getting such numbers on the two dice, whose product is 12.

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Short Answers Sa Ii Type Questions

1. Apoorv throws two dice at once and computes the product of the numbers appearing on the dice. Peehu throws one die

and squares the number that appears on it. Who has a better chance of getting the number 36. Why?

View Text Solution

2. From the following distribution, find median:

Classes	500 – 600	600 – 700	700 – 800	800 – 900	900 – 1000
Frequency	36	32	32	20	30

View Text Solution

3. The probability of selecting a blue marble at random from a jar that contains only blue, black and green marbles is $\frac{1}{5}$. The probability of selecting a black marble at random from the same jar is $\frac{1}{4}$. If the jar contains 11 green marbles, find the total number of marbles in the jar.

View Text Solution

4. Read the following passage and answer the questions given at the end:

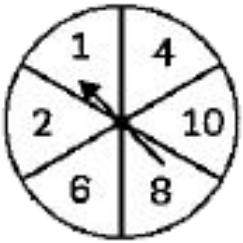
Diwali Fair

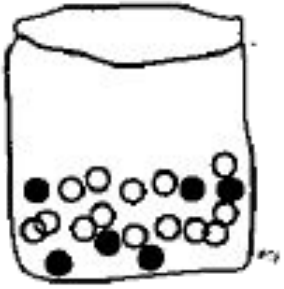
A game in a booth at a Diwali fair involves using a spinner first. Then, if the spinner stops on an even number, the player is allowed to pick a marble from a bag. The spinner and the marbles in the bag are represented in the figure.

Prizes are given when a black marble is picked.Shweta plays the game once.

What is the probability that she will be

allowed to pick a marble from the bag?





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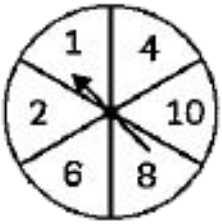
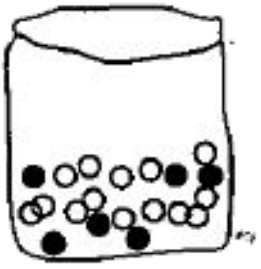
on an even number, the player is allowed to pick a marble from a bag. The spinner and the marbles in the bag are represented in the figure.

Prizes are given when a black marble is picked.Shweta plays the game once.

Suppose she is allowed to pick a marble from the bag, what is the probability of getting a prize, when it is given that the bag contains 20 balls out of which 6 are black?





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6. Calculate the mode of the following distribution:

Class	10-15	15-20	20-25	25-30	30-35
Frequency	4	7	20	8	1

View Text Solution

7. Calculate the mean of the following data:

Class	4-7	8-11	12-15	16-19
Frequency	5	4	9	10

View Text Solution

8. The following table gives the number of pages written by Sarika for completing her own book for 30 Calculate the average number of pages writen in 30 days.

Number of pages written per day	16-18	19-21	22-24	25-27	28-30
Number of Days	1	3	4	9	13

View Text Solution

9. Find the mode of the following frequency distribution.

Class	Frequency
0-10	8
10-20	10
20-30	10
30-40	16
40-50	12
50-60	6
60-70	7

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10. All kings, jacks and diamonds have been removed a pack of playing cards and the remaining cards are well-shuffled. A card is then drawn at randm. Find the probability that

the drawn card is a

face card.

View Text Solution

11. All kings, jacks and diamonds have been removed a pack of playing cards and the remaining cards are well-shuffled. A card is then drawn at randm. Find the probability that the drawn card is a

black card.

View Text Solution

12. The daily income of a sample of 50 employees are tabulated as follows:

Find the mean daily income of the employees.

Income (in ₹)	1-200	201-400	401-600	601-800
Number of employees	14	15	17	7

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13. A bag contains 12 balls out of which some are white and the others are red. If the probability of drawing a white ball at random

from the bag is $\frac{2}{3}$, then find how many red balls are there in the bag.

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14. An aircraft has 120 passenger seats. The number of seats occupied during 100 flights is given in the Determine the mean number of seats occupied during the flights.

Numbe of seats	100-104	104-108	108-112	112-116	116-120
Frequency	15	20	32	18	15

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15. A game consists of tossing a one-rupee coin 3 times and noting the outcome each time. Ramesh wins the game if all the tosses give the same result (i.e. there heads or three tails) and looses otherwise. Find the probability of Ramesh losing the game.

View Text Solution

16. Two different dice are thrown together. Find the probability that the numbers

obtained.

have a sum less than 7

View Text Solution

17. Two different dice are thrown together. Find the probability that the numbers obtained.

have a product less than 16

View Text Solution

18. Two different dice are thrown together. Find the probability that the numbers obtained.

is a doublet of odd numbers.

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19. A lot consists of 144 ball pens of which 20 are defective. The customers will buy a ball pen if it is good, but will not buy a defective ball pen. The shopkeeper draws one pen at

random from the lot and gives it to the customers. What is the probability that customer will buy the ball pen

View Text Solution

20. A lot consists of 144 ball pens of which 20 are defective. The customers will buy a ball pen if it is good, but will not buy a defective ball pen. The shopkeeper draws one pen at random from the lot and gives it to the

customers. What is the probability that

customer will not buy the ball pen

View Text Solution

21. The weights (in kg) of 50 wrestlers are recorded in the following table

find the mean weight of the wrestlers.

Weight (in kg)	100-110	110-120	120-130	130-140	140-150
Number of wrestlesr	4	14	21	8	3

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22. A coin is tossed 3 times. Write all the possible outcomes. Find the probability of getting at least 2 heads.

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23. Black aces and black queens are removed from a pack of 52 cards. The remaining cards are reshuffled and then a card is drawn. Find the probability of getting:

a black card

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24. Black aces and black queens are removed from a pack of 52 cards. The remaining cards are reshuffled and then a card is drawn. Find the probability of getting:

an ace.

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25. In a single throw of a pair of different dice, what is the probability of getting

a prime number on each dice

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26. In a single throw of a pair of different dice, what is the probability of getting a total of 9 or 11?

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27. A carton of 24 bulbs contain 6 defective bulbs. One bulb is drawn at random. What is

the probability that the bulb is not defective ?

If the bulb selected is defective and it is not replaced and a second bulb is selected at random from the rest, what is the probability that the second bulb is defective?

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28. At a fete, cards bearing numbers 1 to 1000, (one number on one card, are put in a box. Each player selects one card at random and that card is not replaced. If selected card has a

perfect square greater than 500, the player wins a prize. What is the probability that:

the first player wins a prize?

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29. At a fete, cards bearing numbers 1 to 1000, (one number on one card, are put in a box. Each player selects one card at random and that card is not replaced. If selected card has a perfect square greater than 500, the player wins a prize. What is the probability that:

the second player wins a prize, if the first has won?

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30. The table below shows the salaries of 280 persons:

Calculate the median salary of the data.

Salary (In thousand ₹)	No. of Persons	Salary (In thousand ₹)	No. of Persons
5–10	49	30–35	7
10–15	133	35–40	4
15–20	63	40–45	2
20–25	15	45–50	1
25–30	6		

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31. A bag contains 15 white and some black balls. If the probability of drawing a black ball from the bag is thrice that of drawing a white ball, find the number of black balls in the bag.

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32. From a pack of 52 playing cards, Jacks, Queens and kings of red colour are removed. From the remaining, a card is drawn at random. Find the probability that drawn card

is:

a black

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33. From a pack of 52 playing cards, Jacks, Queens and kings of red colour are removed. From the remaining, a card is drawn at random. Find the probability that drawn card is:

a card of red colour

View Text Solution

34. From a pack of 52 playing cards, Jacks, Queens and kings of red colour are removed. From the remaining, a card is drawn at random. Find the probability that drawn card is:

a card of black colour

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35. Two unbiased coins tossed simultaneously then the probability of getting no head is $\frac{A}{B}$,

then $(A+B)^2$ is?

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36. If odds in against of an event be 3 : 8, then the probability of occurrence of this event is?

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37. The probability of selecting a red ball at random from a jar that contains only red, blue and orange balls is $\frac{1}{4}$. The probability of

selecting a blue ball at random from the same jar is $\frac{1}{3}$. If the jar contains 10 orange balls, find the total number of balls in the jar.

View Text Solution

38. The following table gives the number of participants in a yoga camp:

Find the modal age of the participants.

Age (in years)	20-30	30-40	40-50	50-60	60-70
No. of Participants	8	40	58	90	83

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39. Calculate the mean of the following frequency distribution:

Class	10-30	30-50	50-70	70-90	90-110	110-130
Frequency	5	8	12	20	3	2

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40. Two different dice are thrown at the same time. Find the probability that the number appearing on the twon dice

Have a sum 8.

View Text Solution

41. Two different dice are thrown at the same time. Find the probability that the number appearing on the twon dice

Are first even and second odd.

View Text Solution

42. A box contains 90 discs which are numbered from 1 to 90. If one disc is drawn at random from the box, find the probability that

it bears

a two-digit number,

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43. A box contains 90 discs which are numbered from 1 to 90. If one disc is drawn at random from the box, find the probability that it bears

a number divisible by 5.

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44. A box contains 90 discs which are numbered from 1 to 90. If one disc is drawn at random from the box, find the probability that it bears

perfect square number.

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45. Peter throws two different dice together and find the product of the two numbers obtained. Rina thrown a die and squares the

number obtained. Who has the better chance to get the number 25.

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46. A die is thrown twice. Find the probability that:

5 will not come either time.

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47. A die is thrown twice. Find the probability that:

The sum of numbers on the two dice is not more than 5.

View Text Solution

48. A game of chance consists of spinning an arrow on a circular board, divided into 8 equal parts, which comes to rest pointing to one of the numbers 1, 2, 3, ..., 8 which are equally

likely outcomes. What is the probability that the arrow will point at

an odd number

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49. A game of chance consists of spinning an arrow on a circular board, divided into 8 equal parts, which comes to rest pointing to one of the numbers 1, 2, 3, ..., 8 which are equally likely outcomes. What is the probability that

the arrow will point at

a number greater than 3

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50. A game of chance consists of spinning an arrow on a circular board, divided into 8 equal parts, which comes to rest pointing to one of the numbers 1, 2, 3, ..., 8 which are equally likely outcomes. What is the probability that the arrow will point at

a number less than 9.

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51. Two different dice are thrown together. Find the probability that the numbers obtained have:

even sum, and

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52. Two different dice are thrown together. Find the probability that the numbers

obtained have:

even product.

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53. A number s is selected at random from the numbers 1, 2, 3 and 4. Another number y is selected at random from the numbers 1, 4, 9 and 16. Find the probability that product of x and y is less than 16.

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54. A number x is selected from the numbers 1, 2, 3 and then a second number y is selected randomly from the numbers 1, 4, 9. What is the probability that the product xy of the two numbers will be less than 9?

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55. A bag contains 24 balls of which x are red, 2x are white and 3x are blue. A ball is drawn at random. What is the probability that it is:

not a red ball?

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56. A bag contains 24 balls of which x are red, 2x are white and 3x are blue. A ball is drawn at random. What is the probability that it is:

a white ball?

View Text Solution

57. A bag contains 24 balls of which x are red, 2x are white and 3x are blue. A ball is drawn at

random. What is the probability that it is:

either a blue or a white ball?

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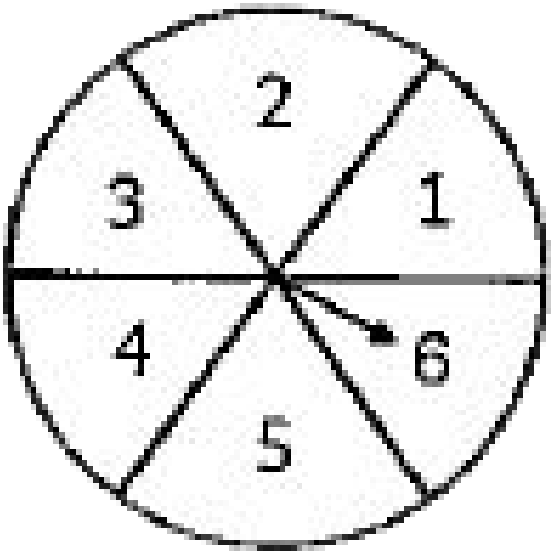
58. In the figure a disc is shown on which a player spins on arrow twice. The fraction $\frac{a}{b}$ is formed, where 'a' is the number of sector on which arrow stops on the first spin and 'b' is the number of the sector in which the arrow stops on the second spin. On each spin, each sector has equal chance of selection by the

arrow. Find the probability that the fraction $\frac{a}{b} > 1$.



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Long Answer Type Questions

1. The average score of boys in the examination of a school is 71 and that of the girls is 73. The average score of the school in the examination is 71.8. Find the ration of the number of boys to the number of girls who appeared in the examination.

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2. The mean of the following frequency distribution is 62.8 and the sum of all the

frequencies is 50. Compute the missing frequencies f_1 and f_2.

Classes	0-20	20-40	40-60	60-80	80-100	100-120
Frequency	5	f_1	10	f_2	7	8

View Text Solution

3. The distribution given below show the number of wickets taken by bowlers in one-day cricket matches, Find the mean and the median for the numbers of wickets taken.

Number of wickets	20 – 60	60 – 100	100 – 140	140 – 180	180 – 220	220 – 260
Number of Persons	7	5	16	12	2	3

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4. The median of the following data is 525. Find the values of x and y, if total frequency is 100:

Class	0-100	100-200	200-300	300-400	400-500	500-600	600-700	700-800	800-900	900-1000
Frequency	2	5	x	12	17	20	y	9	7	4

View Text Solution

5. Find the mean marks of the students for the following distribution:

Marks	Number of Students
0 and above	80
10 and above	77
20 and above	72
30 and above	65
40 and above	55
50 and above	43
60 and above	28
70 and above	16
80 and above	10
90 and above	8
100 and above	0

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6. Find the values of frequency 'x' and 'y' in the following frequency distribution table, if N = 100 and median is 32.

Marks	0-10	10-20	20-30	30-40	40-50	50-60	60-70
No. of Students	10	x	25	30	y	10	100

View Text Solution

7. The weights of tea in 70 packets are shown in the following table:

Find the mean weight of the packets.

Weight (in g)	200-201	201-202	202-203	203-204	204-205	205-206
Number of packets	13	27	18	10	1	1

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8. If the median of the following frequency distribution is 32.5. Find the values of f_1 and

f_2.

Class	Frequency
0-10	f_1
10-20	5
20-30	9
30-40	12
40-50	f_2
50-60	3
60-70	2
Total	40

View Text Solution

9. The mean of the following distribution is 18.

Find the frequency of the class 19-21.

Class	11-13	13-15	15-17	17-19	19-21	21-23	23-25
Frequency	3	6	9	13	f	5	4

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10. From a pack of 52 playing cards. Jacks and kings of colour and Queens and Aces of black colour are removed. The remaining cards are mixed and a card is drawn at random. Find the probability that the drawn card is.

a card of red colour

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11. From a pack of 52 playing cards. Jacks and kings of colour and Queens and Aces of black colour are removed. The remaining cards are mixed and a card is drawn at random. Find the probability that the drawn card is.

a Jack of black colour

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12. From a pack of 52 playing cards. Jacks and kings of colour and Queens and Aces of black

colour are removed. The remaining cards are mixed and a card is drawn at random. Find the probability that the drawn card is.

a face card

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13. Daily wages of 110 workers, obtained in a survey, are tabulated below:

Compute the mean daily wages and modal daily wages of these workers.

Daily Wages (in ₹)	100-120	120-140	140-160	160-180	180-200	200-220	220-240
Number of Workers	10	15	20	22	18	12	13

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14. The mean of the following distribution is 18. Find the frequency f of the class 19-21.

Class	11-13	13-15	15-17	17-19	17-19	19-21	21-23	23-25
Frequency	3	6	9	13	13	f	5	4

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15. Find the unknown etries a, b, c, d, e, f in the following distribution of the heights of the

students in a class:

Height (in cm)	Frequency	Cumulative Frequency
150-155	12	a
155-160	b	25
160-165	10	c
165-170	d	43
170-175	e	48
175-180	2	f
Total	50	

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16. A card is drawn at random from a well shuffled deck of playing cards. Find the probability that the card drawn is :

a card of spade or an ace.

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17. A card is drawn at random from a well shuffled deck of playing cards. Find the probability that the card drawn is :

a black king.

View Text Solution

18. A card is drawn at random from a well shuffled deck of playing cards. Find the probability that the card drawn is :

neither a jack nor a king.

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19. A card is drawn at random from a well shuffled deck of playing cards. Find the probability that the card drawn is :

either a king or a queen.

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