

IITJEE Foundation Practice paper

PROBABILITY

class-9-Mathematics Number of Questions: 60

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1

When a die is thrown once, find the probability of getting a number between 3 and 6.

- $\frac{4}{6}$ $\frac{2}{6}$ $\frac{3}{6}$ $\frac{5}{6}$

2

For an event E, the correct inequality is ?

- $0 \leq P(E) \leq 1$ $0 \leq P(E) < 1$ $0 < P(E) \leq 1$ $0 \geq P(E) \geq 1$

3

Untitled Tickets numbered 1 to 20 are mixed up and then a ticket is drawn at random. What is the probability that the ticket drawn has a number which is a multiple of 3 or 5?

- $\frac{1}{2}$ $\frac{2}{5}$ $\frac{8}{15}$ $\frac{9}{20}$

4

A bag contains 2 red, 3 green and 2 blue balls. Two balls are drawn at random. What is the probability that none of the balls drawn is blue ?

- $\frac{10}{21}$ $\frac{11}{21}$ $\frac{2}{7}$ $\frac{5}{7}$

5

In a box, there are 8 red, 7 blue and 6 green balls. One ball is picked up randomly. What is the probability that it is neither red nor green?

- $\frac{1}{3}$ $\frac{7}{19}$ $\frac{8}{21}$ $\frac{9}{21}$

6

When two dice are thrown what is the probability of getting a sum 9 on their top faces ?

- $\frac{1}{6}$ $\frac{1}{8}$ $\frac{1}{9}$ $\frac{1}{12}$

7

Three coins are tossed. What is the probability of getting at most two heads ?

- $\frac{3}{4}$ $\frac{1}{4}$ $\frac{3}{8}$ $\frac{7}{8}$

8

If $P(E') = \frac{11}{90}$, then find $P(E)$.

- $\frac{11}{90}$ $\frac{89}{90}$ $\frac{79}{90}$ 1

9

Two dice are thrown simultaneously. What is the probability of getting two numbers on their tops whose product is even ?

- $\frac{1}{2}$ $\frac{3}{4}$ $\frac{3}{8}$ $\frac{5}{16}$

10

In a lottery, there are 10 prizes and 25 blanks. A lottery is drawn at random. What is the probability of getting a prize?

- $\frac{1}{10}$ $\frac{2}{5}$ $\frac{2}{7}$ $\frac{5}{7}$

11

Two dice are thrown simultaneously. What is the probability of getting two numbers on their tops whose sum is a prime number.

- $\frac{1}{6}$ $\frac{5}{12}$ $\frac{1}{2}$ $\frac{7}{9}$

12

A card is drawn from a pack of 52 cards. The probability of getting a queen of club or a king of heart

- $\frac{1}{13}$ $\frac{2}{13}$ $\frac{1}{26}$ $\frac{1}{52}$

13

When a die is thrown once find the probability of getting an even prime number.

- $\frac{2}{6}$ $\frac{1}{6}$ $\frac{5}{6}$ $\frac{4}{6}$

14

A bag contains 4 white, 5 red and 6 blue balls. One ball is drawn at random from the bag. The probability that the ball is red ?

- $\frac{1}{3}$ $\frac{3}{4}$ $\frac{2}{5}$ $\frac{2}{7}$

15

One card is drawn at random from a pack of 52 cards. What is the probability that the card drawn is a face card (Jack, Queen and King only)?

- $\frac{1}{13}$ $\frac{3}{13}$ $\frac{1}{4}$ $\frac{9}{52}$

16

A bag contains 6 black and 8 white balls. One ball is drawn at random. What is the probability that the ball drawn is white?

- $\frac{3}{4}$ $\frac{4}{7}$ $\frac{1}{8}$ $\frac{3}{7}$

17

Two fair six-sided die are rolled and the face values are added. The probability of obtaining an odd number greater than 8 is

- $\frac{1}{6}$ $\frac{2}{9}$ $\frac{1}{9}$ $\frac{1}{4}$

18

When a die is thrown once find the probability of getting an even number .

- 0.45 0.55 0.65 0.50

19

When a die is thrown once, find the probability of getting a number greater than 4 .

- $\frac{1}{3}$ $\frac{2}{3}$ $\frac{3}{4}$ 0

20

If the probability of winning a game is 0.3 , then find the probability of losing the game.

- 0.7 0.75 0.3 0.6

21

If a fair six-sided die is tossed twice, what is the probability that the tops of two dice shows consecutive numbers in ascending order.

- $\frac{1}{3}$ $\frac{5}{36}$ $\frac{1}{6}$ $\frac{3}{4}$

22

In a playoff series, the probability that Team A wins over Team B is 0.35 then what is the probability that Team A loses over Team B ?

- 0.35 0.45 0.65 0.75

23

One card is drawn from a deck of 52 cards. The probability of the card being a red face card

- $\frac{1}{13}$ $\frac{3}{14}$ $\frac{6}{52}$ $\frac{9}{52}$

24

If the probability of winning a game is $\frac{1}{7}$, then find the probability of losing the game.

- $\frac{1}{7}$ $\frac{2}{7}$ $\frac{6}{7}$ $\frac{3}{7}$

25

A bag contain 3 red balls and 7 blue balls . If a ball is drawn randomly from the bag then find the probability that the drawn ball is blue in color .

- 0.60 0.30 0.70 0.80

26

One card is drawn from a deck of 52 cards. What is the probability of obtaining black card

- $\frac{5}{52}$ $\frac{19}{52}$ $\frac{5}{26}$ $\frac{1}{2}$

27

Out of 90 people, 32 like corn, 23 like carrots, The probability that randomly selected person will like carrot ?

- $\frac{19}{90}$ $\frac{23}{90}$ $\frac{32}{90}$ $\frac{79}{90}$

28

A bag contain 4 red balls and 6 blue balls . If a ball is drawn randomly from the bag then find the probability that the drawn ball is red colour .

- 0.35 0.30 0.40 0.70

29

Two coins are tossed simultaneously 1000 times with the following frequencies of different outcomes

Number of 2 heads = 350.

Number of 1 head = 310

Number of 0 heads = 340

Then find the probability of getting exactly one head .

- 0.340 0.350 0.130 0.310

30

To know the opinion of students about statistics , a survey of 200

students was conducted. The data recorded is as follows :

Number of students who like statistics = 135

Number of students who dislikes statistics = 65

Find the probability that a student chosen at random dislikes statistics .

- $\frac{15}{40}$ $\frac{13}{40}$ $\frac{17}{40}$ $\frac{19}{40}$

31

A fair coin is tossed 1000 times with the following frequencies ,

Head : 507 , Tail : 493

Find the probability of getting head when the coin is tossed .

- 0.500 0.507 0.504 0.497

32

A die is thrown 1000 times with the following frequencies for outcomes 1 , 2 , 3 , 4 , 5 and 6 .

1 → 179 , 2 → 150 , 3 → 157 ,

4 → 149 , 5 → 175 , 6 → 190.

Find the probability of getting the out come '1' when the die is thrown .

- 0.175 0.157 0.179 0.125

33

To know the opinion of students about mathematics , a survey of 100 students was conducted . The data recorded is as follows :

Number of students who like mathematics = 80

Number of students who dislikes mathematics = 20

Find the probability that a student chosen at random dislikes mathematics .

- $\frac{2}{5}$ $\frac{1}{5}$ $\frac{3}{5}$ $\frac{4}{5}$

34

Two coins are tossed 500 times and we get

(1) Two heads - 105

(2) One head - 275

(3) No Head - 120

Find the probability of getting one head when the two coins are tossed .

- 0.270 0.210 0.120 0.55

35

Cards numbered from 1 to 100 are placed in a box and mixed thoroughly . One card is drawn from this box . Find the probability that the number on the card drawn is a composite number less than 20 .

- 0.01 0.10 0.001 0.010

36

Two coins are tossed 500 times and we get

(1) Two heads : 105

(2) One head : 275

(3) No Head : 120

Find the probability of getting two heads when the two coins are tossed .

- $\frac{21}{100}$ $\frac{23}{100}$ $\frac{29}{100}$ $\frac{19}{100}$

37

Cards numbered from 1 to 50 are placed in a box and mixed thoroughly . One card is drawn from this box . Find the probability that the number on the card drawn is a perfect square?

- 0.11 0.12 0.13 0.14

38

The records of weather station shows that out of the 250 consecutive days , its weather forecast were correct 175 times. What is the probability that on a given day it was correct .

- $\frac{3}{10}$ $\frac{7}{10}$ $\frac{1}{10}$ $\frac{9}{10}$

39

Cards numbered from 1 to 100 are placed in a box and mixed thoroughly . One card is drawn from this box . Find the probability that the number on the card drawn is a prime less than 25 .

- 0.9 0.09 0.19 0.12

40

Cards numbered from 1 to 100 are placed in a box and mixed thoroughly . One card is drawn from this box . Find the probability that the number on the card drawn is a non perfect square number.

- 0.91 0.92 0.90 0.89

41

80 bulbs are selected at random from a lot and their life time was recorded in the form of a frequency table as given below :

Life time → frequency

300 hrs → 10

500 hrs → 12

700 hrs → 23

900 hrs → 25

1100 hrs → 10

One bulb is selected at random from the lot . Find the probability that its life is more than 900 hrs .

- $\frac{5}{16}$ $\frac{9}{16}$ $\frac{7}{16}$ $\frac{11}{16}$

42

In a sample study of 642 people , it was found that 514 people have high school certificate . If a person is selected at random , then the probability that the person has a high school certificate is

- $\frac{514}{672}$ $\frac{514}{642}$ 0.125 0.784

43

In a sample study of 642 people , it was found that 514 people have high school certificate . If a person is selected at random ,then the probability that the person is not having a high school certificate is

- $\frac{64}{642}$ $\frac{128}{321}$ $\frac{64}{321}$ 1

44

A die is rolled 250 times and the frequencies of the outcomes 1 , 2 , 3 , 4 , 5 and 6 are recorded below :

1 → 65, 2 → 40, 3 → 42,

4 → 25, 5 → 33, 6 → 45.

When a die is thrown at random then find the probability of getting 5 .

- $\frac{33}{250}$ $\frac{33}{25}$ $\frac{33}{2500}$ 0.26

45

A recent survey found that the ages of workers and the number of workers in a factory is distributed as follows :

20 to 29 yrs → 38

30 to 39 yrs → 27

40 to 49 yrs → 86

50 to 59 yrs → 46

60 yrs and above → 3

If a person is selected at random , then find the probability that the person is 40 to 49 yrs .

- 0.41 0.42 0.43 0.44

46

In a survey of 364 children aged 19 – 36 months, it was found that 91 liked to eat potato chips. If a child is selected at random, then the probability that she/he like to eat potato chips is ?

- $\frac{91}{384}$ $\frac{273}{364}$ $\frac{91}{364}$ 0.65

47

A fair die is thrown 120 times with the following frequencies of the outcomes number divisible by 3 and not divisible by 3 :

Divisible by 3 → 56

Not divisible by 3 → 64.

When the die is thrown then find the probability that the number appears on the die is divisible by 3 .

- $\frac{8}{15}$ $\frac{7}{15}$ $\frac{17}{15}$ 0.59

48

What is the probability that a leap year selected at random will have 53 Saturdays?

- $\frac{4}{7}$ $\frac{3}{7}$ $\frac{2}{7}$ $\frac{1}{7}$

49

Druva throws two dice in a special game. If he knows that he needs 10 or higher in this throw to win, then find the chance of his winning the game.

- $\frac{6}{36}$ $\frac{17}{36}$ $\frac{13}{36}$ $\frac{5}{36}$

50

A card is drawn from a pack of 52 cards. What is the probability that it is neither a spade nor a Jack?

- $\frac{14}{13}$ $\frac{15}{52}$ $\frac{9}{13}$ $\frac{17}{52}$

51

In a charity show tickets numbered consecutively from 101 through 350 are placed in a box.

What is the probability that a ticket selected at random (blindly) will have a number with a hundredth digit of 2?

- 0.28 0.4 0.24 0.25

52

A bookcase contains 6 different math books and 12 different physics books. If a student randomly selects one of these book. What is the probability that the book is maths ?

- $\frac{1}{3}$ $\frac{4}{13}$ $\frac{2}{9}$ $\frac{9}{17}$

53

A number X is chosen at random from the set $\{-3, -2, -1, 0, 1, 2, 3\}$. What is the probability that $|X| < 2$

- $\frac{5}{7}$ $\frac{3}{7}$ $\frac{3}{5}$ $\frac{1}{3}$

54

A box contains 6 red, 5 blue and 2 green marbles. If one marble is picked at random, what is the probability that the marble is red?

- $\frac{4}{11}$ $\frac{5}{11}$ $\frac{6}{13}$ $\frac{3}{11}$

55

Four dice are thrown simultaneously. Find the probability that all of them show the same face.

- $\frac{1}{216}$ $\frac{1}{36}$ $\frac{4}{216}$ $\frac{3}{216}$

56

A bag contains 12 white and 18 black balls. One ball is drawn randomly from the bag. What is the probability that it is a white ball?

- $\frac{11}{30}$ $\frac{12}{30}$ $\frac{13}{30}$ $\frac{14}{30}$

57

What is the probability that a number selected from numbers 1, 2, 3, ..., 30, is a prime number, when each of the given numbers is equally likely to be selected?

- $\frac{9}{30}$ $\frac{8}{30}$ $\frac{10}{30}$ $\frac{11}{30}$

58

A bag contains 21 toys numbered 1 to 21. A toy is drawn randomly. Find the probability that the toy will show an even number.

- $\frac{5}{21}$ $\frac{9}{42}$ $\frac{11}{42}$ $\frac{10}{21}$

59

A bag contains 5 red and 3 green balls. If one ball is drawn from the bag. Find the probability that the ball is green.

- $\frac{3}{5}$ $\frac{3}{8}$ $\frac{5}{8}$ $\frac{1}{3}$

60

One card is drawn from a pack of well shuffled cards. Find the

probability that the card is a club King.

- $\frac{1}{13}$ $\frac{4}{13}$ $\frac{1}{52}$ $\frac{1}{26}$

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