

IX Test-14 (PROBABILITY)

- 1) A box contains 19 balls bearing numbers 1, 2, 3, ... 19. A ball is drawn from the box. The probability that the number on the ball is divisible by 3 or 5 is:
(a) $\frac{7}{19}$ (b) $\frac{6}{19}$ (c) $\frac{8}{19}$ (d) $\frac{11}{19}$
- 2) A box has 390 bulbs. Out of this 26 are defective. If a bulb is chosen at random, the probability of the bulb not being defective is:
(a) $\frac{1}{15}$ (b) $\frac{14}{15}$ (c) $\frac{3}{20}$ (d) $\frac{2}{15}$
- 3) A research team obtained a clear sample from the common population of 1972 and in this, 1000 boys and 972 girls were found, the probability of a child being a girl is:
(a) 0.493 (b) 0.499 (c) 0.491 (d) 0.492
- 4) There are 10 students in a class, in which 4 are boys and rest are girls. If one student is selected at random, then probability that the student is a girl is:
(a) $\frac{3}{5}$ (b) $\frac{3}{10}$ (c) $\frac{2}{3}$ (d) $\frac{4}{5}$
- 5) An experiment in which when all possible outcomes are known and the exact outcome cannot be predicted in advance is called:
(a) an elementary event (b) a random experiment
(c) a trial of the experiment (d) a compound event.
- 6) A coin is tossed 15 times and observed that 11 times head comes up. The probability that a tail comes up is:
(a) $\frac{4}{15}$ (b) $\frac{2}{15}$ (c) $\frac{11}{15}$ (d) $\frac{1}{15}$
- 7) Which of the following cannot be the probability of an event?
(a) 0 (b) 1 (c) $-\frac{1}{3}$ (d) $\frac{2}{3}$
- 8) In a class, there are x girls and y boys. If a student is selected at random, then the probability of selecting a boy is:
(a) $\frac{x}{y}$ (b) $\frac{x}{x+y}$ (c) $\frac{y}{x+y}$ (d) $\frac{y}{x}$

9) Out of 35 students participating in a debate, 10 are girls. The probability that a student chosen at random is a boy is (a) $\frac{1}{7}$ (b) $\frac{2}{7}$ (c) $\frac{5}{7}$ (d) $\frac{4}{7}$

10) There are 40 students in a class. The number of passed students is 32. If a student is selected at random, then the probability that student has failed in the examination is: (a) $\frac{1}{5}$ (b) $\frac{3}{5}$ (c) $\frac{4}{5}$ (d) $\frac{2}{5}$

11) A coin is tossed 100 times with outcomes, Head : 35 and Tail: 65. The probability of getting a head is (a) 0.35 (b) 0.65 (c) 0.75 (d) 1

12) In a cricket match, a batswoman hits the boundary 8 times out of 50 balls played by her. The probability that she did not hit a boundary is: (a) $\frac{4}{25}$ (b) $\frac{21}{25}$ (c) $\frac{41}{50}$ (d) $\frac{1}{50}$

13) The probability of an impossible event is: (a) 1 (b) less than 1 (c) 0 (d) more than 1

14) Two coins are tossed simultaneously 300 times. Either one or two heads are obtained 198 times. The probability of getting no head is: (a) 0.45 (b) 0.21 (c) 0.36 (d) 0.34

15) Weather forecast from a news channel was correct 125 times out of 365 days. The probability that on a given day the forecast was not correct is (a) $\frac{25}{73}$ (b) $\frac{5}{73}$ (c) $\frac{16}{73}$ (d) $\frac{48}{73}$

16) A die is thrown 1000 times and the outcome were recorded as follows:-

Outcome	1	2	3	4	5	6
Frequency	180	150	160	170	150	190

If the die is thrown once more, then the probability that it shows 5 is: (a) $\frac{9}{50}$ (b) $\frac{3}{20}$ (c) $\frac{4}{25}$ (d) $\frac{7}{25}$

17) Two coins are tossed 1000 times and the outcomes are recorded as below:

No. of heads	2	1	0
Frequency	200	550	250

Based on this information, the probability for at most one head is: (a) $\frac{1}{5}$ (b) $\frac{1}{4}$ (c) $\frac{4}{5}$ (d) $\frac{3}{4}$

- 18) 80 bulbs were selected at random from a lot and their life time (in hours) is recorded in the form of a frequency table given below:

Life time (in hours)	300	500	700	900	1100
Frequency	10	12	23	25	10

One bulb is selected at random from the lot. The probability that its life is 1150 hours is: (a) $\frac{1}{80}$ (b) $\frac{7}{16}$ (c) 0 (d) 1

- 19) In a sample study of 500 people it was found that 315 people are computer savvy. If a person is selected at random, the probability that the person is not computer savvy is: (a) 0.63 (b) 0.37 (c) 0.74 (d) 0.36

- 20) Two coins are tossed 100 times and the outcomes are recorded as follows:

No. of heads	2	1	0
Frequency	15	52	33

Based on this information, the probability for at most one head is (a) $\frac{3}{20}$ (b) $\frac{33}{100}$ (c) $\frac{17}{20}$ (d) $\frac{13}{25}$

- 21) A die is thrown 40 times and the outcomes are tabulated as ~~under~~ below

Outcome	6	5	4	3	2	1
No. of times	4	9	7	8	9	3

The probability of getting an odd number is:

- (a) $\frac{1}{2}$ (b) $\frac{1}{5}$ (c) $\frac{3}{10}$ (d) $\frac{17}{40}$

- 22) The probability of an event of a trial is always:

- (a) 1 (b) 0 (c) more than 1 (d) between 0 and 1 (both inclusive)

- 23) The probability of a sure event is:

- (a) more than 1 (b) 1 (c) less than 1 (d) between 0 and 1

- 24) A die is thrown 300 times and odd numbers are obtained 153 times. Then the probability of getting an even number is: (a) $\frac{147}{300}$ (b) $\frac{153}{300}$ (c) $\frac{174}{300}$ (d) $\frac{147}{153}$

25) The sum of the probabilities of all events of a trial is :
(a) less than 1 (b) 1 (c) greater than 1 (d) between 0 and 1

IX Test-14 (Probability-Answers)

1) Total no. of outcomes = 19.
 Favourable outcomes are 3, 5, 6, 9, 10, 12, 15, 18.
 No. of favourable outcomes = 8
 $\therefore P(\text{getting a number divisible by 3 or 5}) = \frac{8}{19} \text{ (c)}$

2) Total no. of outcomes = 390
 no. of favourable outcomes = $390 - 26 = 364$
 $\therefore P(\text{getting a non-defective bulb}) = \frac{364}{390} = \frac{14}{15} \text{ (b)}$

3) Total no. of outcomes = 1972
 No. of favourable outcomes = 972
 $\therefore P(\text{a girl child}) = \frac{972}{1972} = 0.493 \text{ (a)}$

4) Total no. of outcomes = 10
 No. of favourable outcomes = $10 - 4 = 6$
 $\therefore P(\text{Student is a girl}) = \frac{6}{10} = \frac{3}{5} \text{ (a)}$

5) a random experiment (b)

6) Total no. of outcomes = 15
 No. of favourable outcomes = $15 - 11 = 4$
 $\therefore P(\text{a tail comes up}) = \frac{4}{15} \text{ (a)}$

7) $-\frac{1}{3} \text{ (c)}$

8) Total no. of outcomes = $(x+y)$
 No. of favourable outcomes = y
 $\therefore P(\text{selecting a boy}) = \frac{y}{x+y} \text{ (c)}$

9) Total no. of outcomes = 35
 No. of favourable outcomes = $35 - 10 = 25$
 $\therefore P(\text{a student is a boy}) = \frac{25}{35} = \frac{5}{7} \text{ (c)}$

10) Total no. of outcomes = 40
 No. of favourable outcomes = $40 - 32 = 8$
 $\therefore P(\text{student has failed}) = \frac{8}{40} = \frac{1}{5}$ (a)

11) Total no. of outcomes = 100
 no. of favourable outcomes = 35
 $\therefore P(\text{getting a head}) = \frac{35}{100} = 0.35$ (a)

12) Total no. of outcomes = 50
 No. of favourable outcomes = $50 - 8 = 42$
 $\therefore P(\text{not hitting a boundary}) = \frac{42}{50} = \frac{21}{25}$ (b)

13) 0 (c)

14) Total no. of outcomes = 300
 No. of favourable outcomes = $300 - 198 = 102$
 $\therefore P(\text{getting no head}) = \frac{102}{300} = \frac{17}{50} = 0.34$ (d)

15) Total no. of outcomes = 365
 No. of favourable outcomes = $365 - 125 = 240$
 $\therefore P(\text{forecast was not correct}) = \frac{240}{365} = \frac{48}{73}$ (d)

16) Total no. of outcomes = 1000
 No. of favourable outcomes = 150
 $\therefore P(\text{it shows 5}) = \frac{150}{1000} = \frac{3}{20}$ (b)

17) Total no. of outcomes = 1000
 No. of favourable outcomes = $250 + 550 = 800$
 $\therefore P(\text{atmost 1 head}) = \frac{800}{1000} = \frac{4}{5}$ (c)

18) Impossible event
 $P(\text{lifetime is 1150 hours}) = 0$ (c)

19) Total no. of outcomes = 500
 No. of favourable outcomes = $500 - 315 = 185$
 $\therefore P(\text{the person is not computer savvy}) = \frac{185}{500} = 0.37$ (b)

20) Total no. of outcomes = 100
No. of favourable outcomes = $33 + 52 = 85$
 $\therefore P(\text{atmost 1 head}) = \frac{85}{100} = \frac{17}{20} = \frac{17}{20} \text{ (c)}$

21) Total no. of outcomes = 40
No. of favourable outcomes = $3 + 8 + 9 = 20$
 $\therefore P(\text{getting an odd number}) = \frac{20}{40} = \frac{1}{2} \text{ (a)}$

22) between 0 and 1 (both inclusive) (d)

23) 1 (b)

24) Total no. of outcomes = 300
No. of favourable outcomes = $300 - 153 = 147$
 $\therefore P(\text{getting an even number}) = \frac{147}{300} \text{ (a)}$

25) 1 (b)
