EduSahara™ Assignment

Name : Probability

Chapter : Probability

Grade : CBSE Grade IX

1. A coin is tossed 40 times and tail appears 20 times. If the coin is tossed again, what is the probability of getting a head?

(i) $\frac{3}{4}$ (ii) $\frac{1}{2}$ (iii) $\frac{5}{6}$ (iv) $\frac{2}{3}$ (v) $\frac{4}{5}$

2. A coin is tossed 60 times and head appears 45 times. If the coin is tossed again, what is the probability of getting a tail?

(i) 0 (ii) $\frac{2}{5}$ (iii) $\frac{3}{4}$ (iv) $\frac{1}{2}$ (v) $\frac{1}{4}$

3. Two coins are tossed simultaneously 110 times and it was observed that both heads appeared 55 times. If two coins are tossed simultaneously at random, what is the probability of getting both heads?

(i) $\frac{2}{3}$ (ii) $\frac{1}{2}$ (iii) $\frac{5}{6}$ (iv) $\frac{3}{4}$ (v) $\frac{4}{5}$

4. Two coins are tossed simultaneously 70 times and it was observed that both tails appeared 35 times. If two coins are tossed simultaneously at random, what is the probability of getting both tails?

(i) $\frac{3}{4}$ (ii) $\frac{5}{6}$ (iii) $\frac{4}{5}$ (iv) $\frac{2}{3}$ (v) $\frac{1}{2}$

5. A die is thrown 120 times. Prime numbers appeared on the upper face 65 times. If a die is thrown at random, what is the probability of getting a prime number?

(i) $\frac{13}{24}$ (ii) $\frac{11}{24}$ (iii) $\frac{7}{12}$ (iv) $\frac{14}{25}$ (v) $\frac{1}{2}$

6. A survey of 70 men showed that only 50 of them know Sanskrit. Out of these men, if one is selected at random, what is the probability that the selected man knows Sanskrit?

(i) $\frac{4}{7}$ (ii) $\frac{2}{7}$ (iii) $\frac{5}{7}$ (iv) $\frac{3}{4}$ (v) $\frac{6}{7}$

7. On a particular day, at a crossing in a city, the various types of 100 vehicles going past during a time-interval were observed as under:

Type of Vehicle	Three-wheeler	Two-wheeler	Four-wheeler
Frequency	25	35	40

Out of these vehicles, if one is choosen at random, what is the probability that the choosen vehicle is a 'Two-wheeler' ?

(i) $\frac{3}{10}$ (ii) $\frac{13}{20}$ (iii) $\frac{2}{5}$ (iv) $\frac{8}{21}$ (v) $\frac{7}{20}$

8. The following table shows the blood-groups of 396 students of a class.

Blood group	B	O	AB	A
Number of students	63	90	117	126

One student of the class is choosen at random. What is the probability that the choosen student has blood group 'AB' ?

(i) $\frac{13}{44}$ (ii) $\frac{31}{44}$ (iii) $\frac{14}{45}$ (iv) $\frac{7}{22}$ (v) $\frac{3}{11}$

9. There are 76 students in a class room of whom 38 are boys and 38 are girls. From these students, one is choosen at random. What is the probability that the choosen student is a boy ?

(i) $\frac{1}{2}$ (ii) $\frac{4}{5}$ (iii) $\frac{5}{6}$ (iv) $\frac{2}{3}$ (v) $\frac{3}{4}$

10. There are 66 students in a class room of whom 26 are boys and 40 are girls. From these students, one is choosen at random. What is the probability that the choosen student is a girl ?

(i) $\frac{20}{33}$ (ii) $\frac{19}{33}$ (iii) $\frac{7}{11}$ (iv) $\frac{21}{34}$ (v) $\frac{13}{33}$

11. In a lottery, there are 24 prizes and 14 blanks. What is the probability of getting a prize?

(i) $\frac{12}{19}$ (ii) $\frac{13}{20}$ (iii) $\frac{11}{19}$ (iv) $\frac{7}{19}$ (v) $\frac{13}{19}$

12. In a lottery, there are 22 prizes and 12 blanks. What is the probability of not getting a prize?

(i) $\frac{7}{17}$ (ii) $\frac{7}{18}$ (iii) $\frac{5}{17}$ (iv) $\frac{6}{17}$ (v) $\frac{11}{17}$

13. Which of the following experiments have equally likely outcomes?

a) A baby is born. It is a boy or girl
b) A ball is hit. It reaches the boundary or not
c) A man starts his vehicle. It starts or it does not starts
d) A man throws a die. The number on the top is either 6 or not 6
e) A true/false question is attempted. The answer is either right or wrong

(i) {c,e,a} (ii) {d,b,a} (iii) {b,a} (iv) {a,e} (v) {c,e}

14. Which of the following are possible values of probability?

a) 0.8
b) $\frac{9}{5}$
c) $\frac{8}{9}$
d) 2
e) -1.5

(i) {b,a} (ii) {d,c} (iii) {d,c,a} (iv) {a,c} (v) {e,b,a}

15. If $P(E) = 0.33$, find $P(\overline{E})$

(i) 0.67 (ii) 2.67 (iii) 8.67 (iv) 1.67 (v) 7.67

16. Which of the following are true?

a) The probability of an imposible event can be > 1
b) The probability of an unsure event is 0
c) The probability of a sure event is 1
d) The probability of an impossible event is 1
e) For an event E, we have $0 \leq P(E) \leq 1$

(i) {a,c} (ii) {c,e} (iii) {b,e} (iv) {d,a,c} (v) {b,e,c}

17. Which of the following are true?

a) P(E) + P(not E) = 1
b) $P(E) + P(\overline{E}) = 0$
c) $P(E) - P(\overline{E}) = 0$
d) P(E) - P(not E) = 0
e) $P(E) = 1 - P(\overline{E})$

(i) {a,e} (ii) {b,a} (iii) {c,e} (iv) {c,e,a} (v) {d,b,a}

18. Two players Sangeeta and Meena play a tennis match. It is known that the probability of Sangeeta winning the match is 0.57. What is the probability of Meena winning the match?

(i) $\frac{57}{100}$ (ii) $\frac{44}{101}$ (iii) $\frac{43}{100}$ (iv) $\frac{21}{50}$ (v) $\frac{11}{25}$

19. A die is thrown 460 times. The number 3 appears on the upper face 86 times. Now the die is thrown at random. What is the probability of getting a 3 ?

(i) $\frac{43}{230}$ (ii) $\frac{187}{230}$ (iii) $\frac{21}{115}$ (iv) $\frac{4}{21}$ (v) $\frac{22}{115}$

20. 279 families with 2 children were selected randomly, and the following data were recorded

No. of girls in a family	0	1	2
Number of families	81	90	108

Compute the probability of the family, chosen at random, having no girls.

(i) $\frac{9}{31}$ (ii) $\frac{22}{31}$ (iii) $\frac{10}{31}$ (iv) $\frac{5}{16}$ (v) $\frac{8}{31}$

21. Three coins are tossed simultaneously 195 times with the following frequencies of different outcomes :

Outcome	3 heads	2 heads	1 heads	No heads
Frequency	25	35	65	70

If the three coins are simultaneously tossed again, compute the probability of '3 heads' coming up.

(i) $\frac{4}{39}$ (ii) $\frac{34}{39}$ (iii) $\frac{5}{39}$ (iv) $\frac{2}{13}$ (v) $\frac{3}{20}$

22. A die is thrown 305 times with the frequencies for outcomes 1, 2, 3, 4, 5 and 6 as given in the following table

Outcome	1	2	3	4	5	6
Frequency	35	40	50	55	60	65

If the die is thrown again randomly, find the probability of getting 6 as outcome.

(i) $\frac{12}{61}$ (ii) $\frac{7}{31}$ (iii) $\frac{48}{61}$ (iv) $\frac{13}{61}$ (v) $\frac{14}{61}$

The distances (in km) of engineers from their residence to their place of work were found as follows

23. 29 22 1 16 4 8 3 26 22 10 7 15 20 19 29

What is the empirical probability that an engineer lives less than 26 km from her place of work?

(i) $\frac{1}{5}$ (ii) $\frac{4}{5}$ (iii) $\frac{3}{5}$ (iv) 1 (v) $\frac{5}{6}$

The distances (in km) of engineers from their residence to their place of work were found as follows

24. 23 19 18 3 15 30 22 15 12 9 28 12

What is the empirical probability that an engineer lives greater than 3 km from her place of work?

(i) $\frac{12}{13}$ (ii) 1 (iii) $\frac{5}{6}$ (iv) $\frac{11}{12}$ (v) $\frac{1}{12}$

Assignment Key

1) (ii)	2) (v)	3) (ii)	4) (v)	5) (i)	6) (iii)
7) (v)	8) (i)	9) (i)	10) (i)	11) (i)	12) (iv)
13) (iv)	14) (iv)	15) (i)	16) (ii)	17) (i)	18) (iii)
19) (i)	20) (i)	21) (iii)	22) (iv)	23) (ii)	24) (iv)