EduSahara™ Assignment

Name : Emperical Probability

Chapter : Probability

Grade : SSC Grade X

1. A coin is tossed 60 times and tail appears 25 times. If the coin is tossed again, what is the probability of getting a head?

(i) $\frac{5}{12}$ (ii) $\frac{2}{3}$ (iii) $\frac{8}{13}$ (iv) $\frac{7}{12}$ (v) $\frac{1}{2}$

2. A coin is tossed 70 times and head appears 65 times. If the coin is tossed again, what is the probability of getting a tail?

(i) 0 (ii) $\frac{13}{14}$ (iii) $\frac{2}{15}$ (iv) $\frac{1}{14}$ (v) $\frac{1}{7}$

3. Two coins are tossed simultaneously 100 times and it was observed that both heads appeared 65 times. If two coins are tossed simultaneously at random, what is the probability of getting both heads?

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

4. Two coins are tossed simultaneously 110 times and it was observed that both tails appeared 65 times. If two coins are tossed simultaneously at random, what is the probability of getting both tails?

(i) $\frac{7}{11}$ (ii) $\frac{6}{11}$ (iii) $\frac{13}{22}$ (iv) $\frac{9}{22}$ (v) $\frac{14}{23}$

5. A die is thrown 130 times. Prime numbers appeared on the upper face 60 times. If a die is thrown at random, what is the probability of getting a prime number?

(i) $\frac{7}{13}$ (ii) $\frac{5}{13}$ (iii) $\frac{6}{13}$ (iv) $\frac{1}{2}$

6. A survey of 50 men showed that only 35 of them know English. Out of these men, if one is selected at random, what is the probability that the selected man knows English?

(i) $\frac{3}{10}$ (ii) $\frac{4}{5}$ (iii) $\frac{3}{5}$ (iv) $\frac{7}{10}$ (v) $\frac{8}{11}$

7. On a particular day, at a crossing in a city, the various types of 150 vehicles going past during a time-interval were observed as under:

Type of Vehicle	Three-wheeler	Two-wheeler	Four-wheeler
Frequency	30	55	65

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

(i) $\frac{17}{30}$ (ii) $\frac{2}{5}$ (iii) $\frac{13}{30}$ (iv) $\frac{7}{15}$ (v) $\frac{14}{31}$

8. The following table shows the blood-groups of 342 students of a class.

Blood group	B	O	A	AB
Number of students	54	72	99	117

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

(i) $\frac{2}{19}$ (ii) $\frac{16}{19}$ (iii) $\frac{3}{19}$ (iv) $\frac{1}{5}$ (v) $\frac{4}{19}$

9. A die is thrown 390 times. The number 6 appears on the upper face 66 times. Now the die is thrown at random. What is the probability of getting a 6 ?

(i) $\frac{12}{65}$ (ii) $\frac{11}{65}$ (iii) $\frac{54}{65}$ (iv) $\frac{2}{13}$ (v) $\frac{2}{11}$

10. 189 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	45	63	81

Compute the probability of the family, chosen at random, having 2 girls.

(i) $\frac{3}{7}$ (ii) $\frac{4}{7}$ (iii) $\frac{1}{2}$ (iv) $\frac{2}{7}$

11. Three coins are tossed simultaneously 215 times with the following frequencies of different outcomes :

Outcome	3 heads	2 heads	1 heads	No heads
Frequency	25	50	55	85

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

(i) $\frac{3}{22}$ (ii) $\frac{38}{43}$ (iii) $\frac{5}{43}$ (iv) $\frac{4}{43}$ (v) $\frac{6}{43}$

12. A die is thrown 310 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	25	40	45	55	60	85

If the die is thrown again randomly, find the probability of getting 2 as outcome.

(i) $\frac{4}{31}$ (ii) $\frac{3}{31}$ (iii) $\frac{5}{31}$ (iv) $\frac{5}{32}$ (v) $\frac{27}{31}$

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

5 1 20 29 20 12 20 26 13 23 3 15 6 25

What is the empirical probability that an engineer lives less than 12 km from her place of work?

(i) $\frac{3}{7}$ (ii) $\frac{1}{7}$ (iii) $\frac{5}{7}$ (iv) $\frac{3}{8}$ (v) $\frac{2}{7}$

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

15 25 30 15 21 7 21 10 27 19 1

What is the empirical probability that an engineer lives greater than 15 km from her place of work?

(i) $\frac{5}{11}$ (ii) $\frac{6}{11}$ (iii) $\frac{7}{12}$ (iv) $\frac{7}{11}$

Assignment Key

1) (iv)	2) (iv)	3) (ii)	4) (iii)	5) (iii)	6) (iv)
7) (iii)	8) (iii)	9) (ii)	10) (i)	11) (iii)	12) (i)
13) (v)	14) (ii)				