EduSahara™ Assignment

Name : Emperical Probability

Chapter : Probability

Grade : SSC Grade X

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1. A coin is tossed 40 times and tail appears 30 times. If the coin is tossed again, what is the probability of getting a head?

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

2. A coin is tossed 80 times and head appears 50 times. If the coin is tossed again, what is the probability of getting a tail?

(i) $\frac{1}{4}$ (ii) $\frac{5}{8}$ (iii) $\frac{4}{9}$ (iv) $\frac{1}{2}$ (v) $\frac{3}{8}$

3. Two coins are tossed simultaneously 40 times and it was observed that both heads appeared 25 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) $\frac{3}{8}$ (iv) $\frac{5}{8}$ (v) $\frac{3}{4}$

4. Two coins are tossed simultaneously 50 times and it was observed that both tails appeared 30 times. If two coins are tossed simultaneously at random, what is the probability of getting both tails?

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

5. A die is thrown 130 times. Prime numbers appeared on the upper face 95 times. If a die is thrown at random, what is the probability of getting a prime number?

(i) $\frac{7}{26}$ (ii) $\frac{19}{26}$ (iii) $\frac{20}{27}$ (iv) $\frac{9}{13}$ (v) $\frac{10}{13}$

6. A survey of 40 men showed that only 30 of them know Hindi. Out of these men, if one is selected at random, what is the probability that the selected man knows Hindi?

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

7. On a particular day, at a crossing in a city, the various types of 110 vehicles going past during a time-interval were observed as under:

Type of Vehicle	Four-wheeler	Three-wheeler	Two-wheeler
Frequency	25	40	45

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

(i) $\frac{7}{11}$ (ii) $\frac{5}{11}$ (iii) $\frac{5}{12}$ (iv) $\frac{4}{11}$ (v) $\frac{3}{11}$

8. The following table shows the blood-groups of 477 students of a class.

Blood group	A	B	O	AB
Number of students	81	117	135	144

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

(i) $\frac{14}{53}$ (ii) $\frac{40}{53}$ (iii) $\frac{7}{27}$ (iv) $\frac{13}{53}$ (v) $\frac{12}{53}$

9. A die is thrown 600 times. The number 4 appears on the upper face 104 times. Now the die is thrown at random. What is the probability of getting a 4 ?

(i) $\frac{13}{75}$ (ii) $\frac{4}{25}$ (iii) $\frac{14}{75}$ (iv) $\frac{62}{75}$ (v) $\frac{7}{38}$

10. 324 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	117	126

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

(i) $\frac{4}{9}$ (ii) $\frac{1}{3}$ (iii) $\frac{7}{18}$ (iv) $\frac{11}{18}$ (v) $\frac{8}{19}$

11. Three coins are tossed simultaneously 165 times with the following frequencies of different outcomes :

Outcome	3 heads	2 heads	1 heads	No heads
Frequency	25	35	50	55

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

(i) $\frac{28}{33}$ (ii) $\frac{3}{17}$ (iii) $\frac{4}{33}$ (iv) $\frac{2}{11}$ (v) $\frac{5}{33}$

12. A die is thrown 355 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	40	45	55	60	75	80

If the die is thrown again randomly, find the probability of getting 1 as outcome.

(i) $\frac{63}{71}$ (ii) $\frac{7}{71}$ (iii) $\frac{8}{71}$ (iv) $\frac{9}{71}$ (v) $\frac{1}{8}$

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

2 12 1 16 10 6 24 21 2 28 5 22 23

What is the empirical probability that an engineer lives less than 28 km from her place of work?

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

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

29 21 22 7 23 17 4 15 18 26 8

What is the empirical probability that an engineer lives greater than 17 km from her place of work?

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

Assignment Key

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

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