EduSahara™ Learning Center Assignment

Grade : Class IX, CBSE
Chapter : Probability
Name : Probability

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1. A coin is tossed 100 times and tail appears 85 times. If the coin is tossed again, what is the probability of getting a head?

(i) $\frac{4}{21}$ (ii) $\frac{1}{10}$ (iii) $\frac{3}{20}$ (iv) $\frac{1}{5}$ (v) $\frac{17}{20}$

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2. A coin is tossed 50 times and head appears 30 times. If the coin is tossed again, what is the probability of getting a tail?

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

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

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4. Two coins are tossed simultaneously 100 times and it was observed that both tails appeared 60 times. If two coins are tossed simultaneously at random, what is the probability of getting both tails?

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

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5. A die is thrown 100 times. Prime numbers appeared on the upper face 80 times. If a die is thrown at random, what is the probability of getting a prime number?

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

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6. A survey of 50 men showed that only 40 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) 1 (ii) $\frac{3}{5}$ (iii) $\frac{1}{5}$ (iv) $\frac{5}{6}$ (v) $\frac{4}{5}$

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7. On a particular day, at a crossing in a city, the various types of 90 vehicles going past during a time-interval were observed as under:

Type of Vehicle	Two-wheeler	Three-wheeler	Four-wheeler
Frequency	25	30	35

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

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

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8. The following table shows the blood-groups of 369 students of a class.

Blood group	AB	O	B	A
Number of students	54	81	108	126

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

(i) $\frac{35}{41}$ (ii) $\frac{6}{41}$ (iii) $\frac{5}{41}$ (iv) $\frac{7}{41}$ (v) $\frac{1}{6}$

41 41 41 41 6

9. There are 56 students in a class room of whom 32 are boys and 24 are girls. From these students, one is choosen at random. What is the probability that the choosen student is a boy ?

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

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10. There are 64 students in a class room of whom 40 are boys and 24 are girls. From these students, one is choosen at random. What is the probability that the choosen student is a girl ?

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

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11. In a lottery, there are 22 prizes and 18 blanks. What is the probability of getting a prize?

(i) $\frac{3}{5}$ (ii) $\frac{1}{2}$ (iii) $\frac{4}{7}$ (iv) $\frac{9}{20}$ (v) $\frac{11}{20}$

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12. In a lottery, there are 28 prizes and 19 blanks. What is the probability of not getting a prize?

(i) $\frac{28}{47}$ (ii) $\frac{18}{47}$ (iii) $\frac{20}{47}$ (iv) $\frac{5}{12}$ (v) $\frac{19}{47}$

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

a) A ball is hit. It reaches the boundary or not
b) A baby is born, it is a boy or girl
c) A man throws a die. The number on the top is either 6 or not 6
d) A man starts his vehicle. It starts or it does not starts

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

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

a) -1.2
b) $\frac{1}{5}$
c) 0.83
d) 2
e) $\frac{7}{4}$

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

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

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

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16. Which of the following are true?

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

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

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17. Which of the following are true?

a) P(E) + P(not E) = 1

b) P(E) = 1 - P($\overline{E}$)

c) P(E) + P($\overline{E}$) = 0

d) P(E) - P($\overline{E}$) = 0

e) P(E) - P(not E) = 0

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

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18. Two players Trisha and Santoshi play a tennis match. It is known that the probability of Trisha winning the match is 0.33. What is the probability of Santoshi winning the match?

(i) $\frac{68}{101}$ (ii) $\frac{67}{100}$ (iii) $\frac{33}{50}$ (iv) $\frac{33}{100}$ (v) $\frac{17}{25}$

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19. A die is thrown 550 times. The number 5 appears on the upper face 76 times. Now the die is thrown at random. What is the probability of getting a 5 ?

(i) $\frac{37}{275}$ (ii) $\frac{38}{275}$ (iii) $\frac{13}{92}$ (iv) $\frac{39}{275}$ (v) $\frac{237}{275}$

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20. 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	54	63	72

Compute the probability of the family, chosen at random, having 1 girl

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

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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	40	60	70

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

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

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22. A die is thrown 365 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	55	60	90	95

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

(i) $\frac{8}{73}$ (ii) $\frac{9}{74}$ (iii) $\frac{65}{73}$ (iv) $\frac{9}{73}$ (v) $\frac{7}{73}$

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

27 , 6 , 3 , 14 , 2 , 12 , 2 , 30 , 22 , 30 , 14 , 14

What is the empirical probability that an engineer lives less than 14 km from her place of work?

(i) $\frac{6}{13}$ (ii) $\frac{1}{3}$ (iii) $\frac{7}{12}$ (iv) $\frac{1}{2}$ (v) $\frac{5}{12}$

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

24. 6 , 12 , 12 , 28 , 7 , 10 , 7 , 6 , 5 , 7 , 2 , 17 , 9 , 10 , 16

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

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

Assignment Key

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