EduSahara™ Worksheet

Name : Chapter Based Worksheet

Chapter : Probability

Grade : CBSE Grade X

1. Rita and Aparna are friends. What is the probability that both will have different birthdays? (ignoring a leap year).

   (i) $\frac{365}{366}$ (ii) 1 (iii) $\frac{363}{365}$ (iv) $\frac{1}{365}$ (v) $\frac{364}{365}$

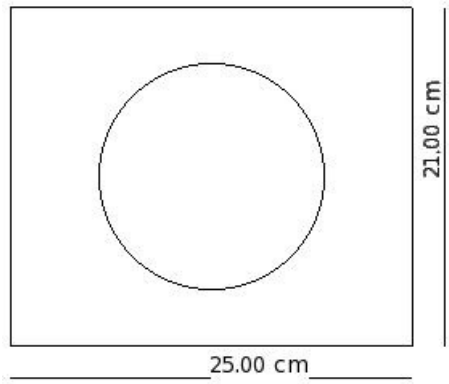
2. Two unbiased coins are tossed simultaneously. Find the probability of getting no head.

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

3. Two unbiased coins are tossed simultaneously. Find the probability of getting exactly one head.

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

4. Suppose a die is thrown on a rectangular region as shown below. What is the probability that it will land inside the circle of diameter 14.00 cm?



   (i) $\frac{23}{76}$ (ii) $\frac{7}{25}$ (iii) $\frac{53}{75}$ (iv) $\frac{22}{75}$ (v) $\frac{23}{75}$

5. When two dice are thrown simultaneously, how many elementary events are possible?

   (i) 33 (ii) 38 (iii) 35 (iv) 36 (v) 37

6. A carton consist of 69 shirts of which 58 are good, 6 have minor defects and 5 have major defects. Vivek, a trader, will only accept the shirts which are good, but Shalini, another trader, will only reject the shirts which have major defects. One shirt is drawn at random from the carton. What is the probability that it is acceptable to Vivek?

   (i) $\frac{59}{70}$ (ii) $\frac{59}{69}$ (iii) $\frac{19}{23}$ (iv) $\frac{11}{69}$ (v) $\frac{58}{69}$

7. A single unbiased coin is tossed. Find the probability of getting a head.

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

8. A die is thrown 60 times. Prime numbers appeared on the upper face 45 times. If a die is thrown at random, what is the probability of getting a prime number?

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

9. Two unbiased dice are thrown simultaneously. Find the probability of getting at least 12 as the sum of the two numbers on the dice.

(i) $\frac{2}{37}$ (ii) $\frac{35}{36}$ (iii) 0 (iv) $\frac{1}{18}$ (v) $\frac{1}{36}$

10. An unbiased die is thrown once. Find the probability of getting a number between 2 and 5?

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

11. Two unbiased dice are thrown simultaneously. Find the probability of getting a doublet.

(i) $\frac{5}{6}$ (ii) 0 (iii) $\frac{1}{3}$ (iv) $\frac{1}{6}$ (v) $\frac{2}{7}$

12. A box contains 10 pink balls, 8 orange balls, 14 black balls and 18 yellow balls. One ball is drawn at random from the box. Find the probability that the ball drawn is black or yellow.

(i) $\frac{17}{25}$ (ii) $\frac{17}{26}$ (iii) $\frac{9}{25}$ (iv) $\frac{16}{25}$ (v) $\frac{3}{5}$

13. 88 cards are numbered 1,2,3,....88 and put in a box and mixed thoroughly. A card is drawn at random. What is the probability that the number on the drawn card is divisible by 5?

(i) $\frac{2}{11}$ (ii) $\frac{71}{88}$ (iii) $\frac{17}{88}$ (iv) $\frac{9}{44}$ (v) $\frac{18}{89}$

14. Three coins are tossed simultaneously 180 times with the following frequencies of different outcomes :

Outcome	3 heads	2 heads	1 heads	No heads
Frequency	25	30	40	85

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

(i) $\frac{5}{36}$ (ii) $\frac{31}{36}$ (iii) $\frac{6}{37}$ (iv) $\frac{1}{9}$ (v) $\frac{1}{6}$

15. There are 54 students in a class room of whom 20 are boys and 34 are girls. From these students, one is choosen at random. What is the probability that the choosen student is a girl ?

(i) $\frac{16}{27}$ (ii) $\frac{10}{27}$ (iii) $\frac{9}{14}$ (iv) $\frac{2}{3}$ (v) $\frac{17}{27}$

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

Blood group	B	O	AB	A
Number of students	72	81	153	171

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

(i) $\frac{44}{53}$ (ii) $\frac{8}{53}$ (iii) $\frac{10}{53}$ (iv) $\frac{9}{53}$ (v) $\frac{5}{27}$

17. When a card is selected randomly out of a pack of cards, how many elementary events are possible?

(i) 49 (ii) 53 (iii) 55 (iv) 51 (v) 52

18. A carton consist of 94 shirts of which 78 are good, 11 have minor defects and 5 have major defects. Srikanth, a trader, will only accept the shirts which are good, but Sowjanya, another trader, will only reject the shirts which have major defects. One shirt is drawn at random from the carton. What is the probability that it is acceptable to Sowjanya?

(i) $\frac{45}{47}$ (ii) $\frac{18}{19}$ (iii) $\frac{44}{47}$ (iv) $\frac{5}{94}$ (v) $\frac{89}{94}$

19. 252 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	72	81	99

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

(i) $\frac{12}{29}$ (ii) $\frac{3}{7}$ (iii) $\frac{17}{28}$ (iv) $\frac{11}{28}$ (v) $\frac{5}{14}$

20. An unbiased die is thrown once. Find the probability of getting a prime number?

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

21. A game consists of tossing a coin 3 times and noting its outcome each time. Akhil wins if all the tosses give the same result i.e., three heads or three tails, and loses otherwise. Calculate the probability that Akhil will lose the game.

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

22. On a particular day, at a crossing in a city, the various types of 130 vehicles going past during a time-interval were observed as under:

Type of Vehicle	Four-wheeler	Three-wheeler	Two-wheeler
Frequency	35	40	55

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

(i) $\frac{19}{26}$ (ii) $\frac{3}{13}$ (iii) $\frac{7}{26}$ (iv) $\frac{8}{27}$ (v) $\frac{4}{13}$

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

a) A man throws a die. The number on the top is either 4 or not 4
b) A true/false question is attempted. The answer is either right or wrong
c) A ball is hit. It reaches the boundary or not
d) A man starts his vehicle. It starts or it does not starts
e) A baby is born. It is a boy or girl

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

24. One card is drawn at random from a well shuffled deck of 52 cards. What is the probability that the card drawn is a black ace?

(i) $\frac{1}{4}$ (ii) $\frac{1}{13}$ (iii) $\frac{1}{52}$ (iv) $\frac{3}{13}$ (v) $\frac{1}{26}$

25. Two players Mallika and Aparna play a tennis match. It is known that the probability of Mallika winning the match is 0.43. What is the probability of Aparna winning the match?

(i) $\frac{58}{101}$ (ii) $\frac{29}{50}$ (iii) $\frac{43}{100}$ (iv) $\frac{14}{25}$ (v) $\frac{57}{100}$

Assignment Key

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