EduSahara™ Worksheet

Name : Chapter Based Worksheet

Chapter : Probability

Grade : ICSE Grade X



1. An unbiased die is thrown once. Find the probability of getting a number less than 5?

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

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

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

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

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

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

4. A carton consist of 91 shirts of which 75 are good, 11 have minor defects and 5 have major defects. Rajesh, a trader, will only accept the shirts which are good, but Deepti, 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 Deepti?

   (i) $\frac{5}{91}$ (ii) $\frac{85}{91}$ (iii) $\frac{87}{92}$ (iv) $\frac{87}{91}$ (v) $\frac{86}{91}$

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

   (i) 53 (ii) 51 (iii) 52 (iv) 50 (v) 54

6. An unbiased die is thrown once. Find the probability of getting an even number?

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

7. Two unbiased dice are thrown simultaneously. Find the probability of getting at least 6 as the sum of the two numbers on the dice.

   (i) $\frac{7}{9}$ (ii) $\frac{5}{18}$ (iii) $\frac{13}{18}$ (iv) $\frac{14}{19}$ (v) $\frac{2}{3}$

8. What is the probability of a sure event?

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

9. What is the probability of an impossible event?

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

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

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

11. Two players Bhavani and Roja play a tennis match. It is known that the probability of Bhavani winning the match is 0.22. What is the probability of Roja winning the match?

(i) $\frac{19}{25}$ (ii) $\frac{40}{51}$ (iii) $\frac{4}{5}$ (iv) $\frac{39}{50}$ (v) $\frac{11}{50}$

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

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

13. Three unbiased coins are tossed simultaneously. Find the probability of getting exactly one head.

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

14. 64 cards are numbered 1,2,3,....64 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 greater then 15?

(i) $\frac{10}{13}$ (ii) $\frac{49}{64}$ (iii) $\frac{3}{4}$ (iv) $\frac{25}{32}$ (v) $\frac{15}{64}$

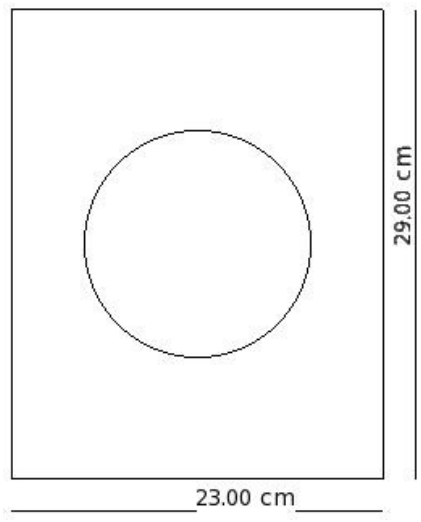
15. If $P(E) = 0.12$, find $P(\bar{E})$

(i) 8.88 (ii) 2.88 (iii) 1.88 (iv) 7.88 (v) 0.88

16. Three unbiased coins are tossed simultaneously. Find the probability of getting no head.

(i) $\frac{1}{8}$ (ii) $\frac{2}{9}$ (iii) $\frac{7}{8}$ (iv) $\frac{1}{4}$ (v) 0

17. 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) $\frac{155}{667}$ (ii) $\frac{155}{668}$ (iii) $\frac{513}{667}$ (iv) $\frac{154}{667}$ (v) $\frac{153}{667}$

18. Two coins are tossed simultaneously 140 times and it was observed that both tails appeared 55 times. If two coins are tossed simultaneously at random, what is the probability of getting both tails?

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

19. The following table shows the blood-groups of 549 students of a class.

| **Blood group** | A | B | AB | O |
|---|---|---|---|---|
| **Number of students** | 54 | 144 | 162 | 189 |

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

(i) $\frac{11}{31}$ (ii) $\frac{20}{61}$ (iii) $\frac{21}{61}$ (iv) $\frac{22}{61}$ (v) $\frac{40}{61}$

20. On a particular day, at a crossing in a city, the various types of 125 vehicles going past during a time-interval were observed as under:

| **Type of Vehicle** | Four-wheeler | Three-wheeler | Two-wheeler |
|---|---|---|---|
| **Frequency** | 35 | 40 | 50 |

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

(i) $\frac{7}{25}$ (ii) $\frac{8}{25}$ (iii) $\frac{6}{25}$ (iv) $\frac{18}{25}$ (v) $\frac{4}{13}$

21. One card is drawn at random from a well shuffled deck of 52 cards. What is the probability that the card drawn is '5' of diamonds?

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

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

28 28 27 11 4 21 2 15 21

What is the empirical probability that an engineer lives greater than 21 km from her place of work?

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

23. In a lottery, there are 20 prizes and 18 blanks. What is the probability of not getting a prize?

(i) $\frac{9}{19}$ (ii) $\frac{8}{19}$ (iii) $\frac{10}{19}$ (iv) $\frac{1}{2}$

24. A bag contains 35 blue balls, 70 yellow balls, 45 pink balls and 5 orange balls. One ball is drawn at random from the bag. Find the probability that the ball drawn is pink or orange.

(i) $\frac{9}{31}$ (ii) $\frac{11}{31}$ (iii) $\frac{21}{31}$ (iv) $\frac{11}{32}$ (v) $\frac{10}{31}$

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

## Assignment Key

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