EduSahara™ Worksheet

Name : Chapter Based Worksheet

Chapter : Probability

Grade : ICSE Grade X

1. One card is drawn at random from a well shuffled deck of 52 cards. What is the probability that the card drawn is either a black card or a jack?

   (i) $\frac{7}{13}$ (ii) $\frac{1}{52}$ (iii) $\frac{1}{26}$ (iv) $\frac{1}{13}$ (v) $\frac{3}{13}$

2. A die is thrown 430 times. The number 2 appears on the upper face 62 times. Now the die is thrown at random. What is the probability of getting a 2 ?

   (i) $\frac{31}{215}$ (ii) $\frac{32}{215}$ (iii) $\frac{4}{27}$ (iv) $\frac{184}{215}$ (v) $\frac{6}{43}$

3. A die is thrown 140 times. Prime numbers appeared on the upper face 40 times. If a die is thrown at random, what is the probability of getting a prime number?

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

4. 74 cards are numbered 1,2,3,....74 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 an odd number?

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

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

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

6. Three unbiased coins are tossed simultaneously. Find the probability of getting at most one head.

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

7. A die is thrown twice. What is the probability that 2 will come atleast once?

   (i) $\frac{12}{37}$ (ii) $\frac{11}{36}$ (iii) $\frac{5}{18}$ (iv) $\frac{25}{36}$ (v) $\frac{1}{3}$

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

   a) 0.33
   b) -2
   c) $\frac{9}{5}$
   d) $\frac{1}{2}$
   e) 4

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

9. A die is thrown twice. What is the probability that 3 will not come up either time?

(i) $\frac{13}{18}$ (ii) $\frac{11}{36}$ (iii) $\frac{25}{36}$ (iv) $\frac{26}{37}$ (v) $\frac{2}{3}$

10. One card is drawn at random from a well shuffled deck of 52 cards. What is the probability that the card drawn is '9' of clubs?

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

11. In a lottery, there are 16 prizes and 16 blanks. What is the probability of getting a prize?

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

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

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

13. Two unbiased dice are thrown simultaneously. Find the probability of getting 5 as the sum of the two numbers on the dice.

(i) 0 (ii) $\frac{2}{9}$ (iii) $\frac{1}{9}$ (iv) $\frac{8}{9}$ (v) $\frac{1}{5}$

14. An unbiased die is thrown once. Find the probability of getting a number between 1 and 4?

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

15. Which of the following are true?

a) If the probability is too less, it will become negative
b) If the probability of failing the exam is 0.5, the probability of passing the exam is 0.5
c) The probability of an event that is very likely to happen is 1
d) The probability of an event that cannot happen is unknown
e) Probability of getting 105 marks out of 100 is 1.05

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

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

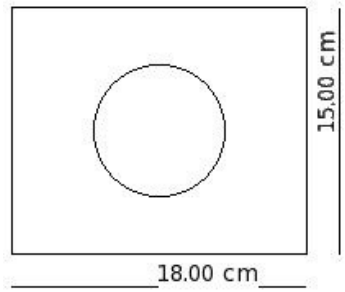
a) A baby is born. It is a boy or girl
b) A man throws a die. The number on the top is either 3 or not 3
c) A ball is hit. It reaches the boundary or not
d) A true/false question is attempted. The answer is either right or wrong
e) A man starts his vehicle. It starts or it does not starts

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

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

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

18. 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 8.00 cm?



(i) $\frac{176}{945}$ (ii) $\frac{59}{315}$ (iii) $\frac{5}{27}$ (iv) $\frac{769}{945}$ (v) $\frac{177}{946}$

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

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

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

Outcome	3 heads	2 heads	1 heads	No heads
Frequency	30	35	45	55

If the three coins are simultaneously tossed again, compute the probability of '2 heads' coming up.

(i) $\frac{26}{33}$ (ii) $\frac{7}{33}$ (iii) $\frac{8}{33}$ (iv) $\frac{2}{11}$ (v) $\frac{4}{17}$

21. 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 of clubs?

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

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

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

23. A carton consist of 95 shirts of which 82 are good, 12 have minor defects and 1 have major defects. Vinay, a trader, will only accept the shirts which are good, but Soundarya, 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 Vinay?

(i) $\frac{82}{95}$ (ii) $\frac{81}{95}$ (iii) $\frac{13}{95}$ (iv) $\frac{83}{95}$ (v) $\frac{83}{96}$

24. A carton consist of 70 shirts of which 50 are good, 15 have minor defects and 5 have major defects. Akbar, a trader, will only accept the shirts which are good, but Seema, 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 Seema?

(i) $\frac{13}{14}$ (ii) $\frac{14}{15}$ (iii) $\frac{6}{7}$ (iv) $\frac{1}{14}$ (v) 1

25. The following table shows the blood-groups of 495 students of a class.

Blood group	A	AB	B	O
Number of students	108	117	126	144

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

(i) $\frac{14}{55}$ (ii) $\frac{13}{55}$ (iii) $\frac{42}{55}$ (iv) $\frac{1}{4}$ (v) $\frac{12}{55}$

Assignment Key

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