EduSahara™ Worksheet

Name : Chapter Based Worksheet

Chapter : Probability

Grade : ICSE Grade X

1. The distances (in km) of engineers from their residence to their place of work were found as follows
20 14 7 25 4 29 11 15 27
What is the empirical probability that an engineer lives less than 11 km from her place of work?

(i) $\frac{2}{9}$ (ii) $\frac{1}{9}$ (iii) $\frac{7}{9}$ (iv) $\frac{1}{3}$ (v) $\frac{3}{10}$

2. A coin is tossed 60 times and head appears 30 times. If the coin is tossed again, what is the probability of getting a tail?

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

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

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

4. The distances (in km) of engineers from their residence to their place of work were found as follows
6 15 20 9 29 4 27 10 13 30 27 29 10
What is the empirical probability that an engineer lives greater than 15 km from her place of work?

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

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

6. If $P(E) = 0.17$, find $P(\bar{E})$

(i) 1.83 (ii) 2.83 (iii) 8.83 (iv) 0.83 (v) 7.83

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

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

8. A die is thrown 350 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	30	45	50	65	70	90

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

(i) $\frac{4}{35}$ (ii) $\frac{61}{70}$ (iii) $\frac{10}{71}$ (iv) $\frac{9}{70}$ (v) $\frac{1}{7}$

9. 71 cards are numbered 1,2,3,....71 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) $\frac{15}{71}$ (ii) $\frac{14}{71}$ (iii) $\frac{13}{71}$ (iv) $\frac{57}{71}$ (v) $\frac{5}{24}$

10. Two unbiased coins are tossed simultaneously. Find the probability of getting at least two heads.

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

11. 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 hearts?

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

12. Swathi and Anjali are friends. What is the probability that both will have different birthdays? (ignoring a leap year).

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

13. A carton consist of 97 shirts of which 85 are good, 7 have minor defects and 5 have major defects. Varun, a trader, will only accept the shirts which are good, but Reshma, 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 Varun?

(i) $\frac{85}{97}$ (ii) $\frac{12}{97}$ (iii) $\frac{84}{97}$ (iv) $\frac{86}{97}$ (v) $\frac{43}{49}$

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

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

15. Three coins are tossed simultaneously 230 times with the following frequencies of different outcomes :

Outcome	3 heads	2 heads	1 heads	No heads
Frequency	35	60	65	70

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

(i) $\frac{17}{23}$ (ii) $\frac{6}{23}$ (iii) $\frac{7}{23}$ (iv) $\frac{5}{23}$ (v) $\frac{7}{24}$

16. 60 cards are numbered 1,2,3,....60 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 a prime number?

(i) $\frac{18}{61}$ (ii) $\frac{3}{10}$ (iii) $\frac{17}{60}$ (iv) $\frac{4}{15}$ (v) $\frac{43}{60}$

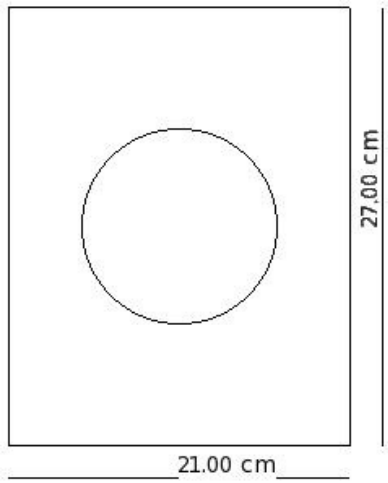
17. A box contains 90 discs which are numbered from 1 to 90. If one disc is drawn at random from the box, find the probability that it bears a number divisible by 5.

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

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

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

19. 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 12.00 cm?



(i) $\frac{89}{442}$ (ii) $\frac{29}{147}$ (iii) $\frac{353}{441}$ (iv) $\frac{88}{441}$ (v) $\frac{89}{441}$

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

(i) 54 (ii) 53 (iii) 51 (iv) 49 (v) 52

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 black suit ?

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

22. A die is thrown 500 times. The number 3 appears on the upper face 84 times. Now the die is thrown at random. What is the probability of getting a 3 ?

(i) $\frac{104}{125}$ (ii) $\frac{4}{25}$ (iii) $\frac{21}{125}$ (iv) $\frac{22}{125}$ (v) $\frac{11}{63}$

23. A coin is tossed 70 times and tail appears 30 times. If the coin is tossed again, what is the probability of getting a head?

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

24. 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 red card or a king?

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

25. Two unbiased dice are thrown simultaneously. Find the probability of getting at least 3 as the sum of the two numbers on the dice.

(i) 1 (ii) $\frac{35}{36}$ (iii) $\frac{1}{36}$ (iv) $\frac{36}{37}$ (v) $\frac{17}{18}$

Assignment Key

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