EduSahara™ Worksheet

Name : Chapter Based Worksheet

Chapter : Probability

Grade : SSC Grade X

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1. There are 56 students in a class room of whom 20 are boys and 36 are girls. From these students, one is choosen at random. What is the probability that the choosen student is a boy ?

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

2. An unbiased die is thrown once. Find the probability of getting a 1?

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

3. A coin is tossed 80 times and head appears 60 times. If the coin is tossed again, what is the probability of getting a tail?

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

4. A carton consist of 82 shirts of which 66 are good, 15 have minor defects and 1 have major defects. Naveen, a trader, will only accept the shirts which are good, but Kareena, 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 Kareena?

   (i) $\frac{81}{82}$ (ii) $\frac{40}{41}$ (iii) $\frac{1}{82}$ (iv) 1 (v) $\frac{82}{83}$

5. 98 cards are numbered 1,2,3,....98 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 less then 13?

   (i) $\frac{6}{49}$ (ii) $\frac{43}{49}$ (iii) $\frac{1}{7}$ (iv) $\frac{5}{49}$ (v) $\frac{7}{50}$

6. Two unbiased dice are thrown simultaneously. Find the probability of getting at least 8 as the sum of the two numbers on the dice.

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

7. What is the probability of a sure event?

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

8. An unbiased die is thrown once. Find the probability of getting a number less than 2?

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

9. A lot of 25 bulbs contain 11 defective ones. One bulb is drawn at random from the lot. Suppose the bulb drawn is not defective and is not replaced. Now one bulb is drawn at random from the rest. What is the probability that this bulb is not defective ?

   (i) $\frac{7}{12}$ (ii) $\frac{13}{24}$ (iii) $\frac{14}{25}$ (iv) $\frac{11}{24}$ (v) $\frac{1}{2}$

10. A box contains 30 discs which are numbered from 1 to 30. If one disc is drawn at random from the box, find the probability that it bears a two-digit number.

(i) $\frac{4}{5}$ (ii) $\frac{7}{10}$ (iii) $\frac{8}{11}$ (iv) $\frac{3}{5}$ (v) $\frac{3}{10}$

11. 54 cards are numbered 1,2,3,....54 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) $\frac{2}{9}$ (ii) $\frac{3}{14}$ (iii) $\frac{22}{27}$ (iv) $\frac{5}{27}$ (v) $\frac{4}{27}$

12. On a particular day, at a crossing in a city, the various types of 100 vehicles going past during a time-interval were observed as under:

Type of Vehicle	Two-wheeler	Four-wheeler	Three-wheeler
Frequency	25	35	40

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

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

13. Which of the following are true?

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

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

c) $P(E) - P(\text{not } E) = 0$

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

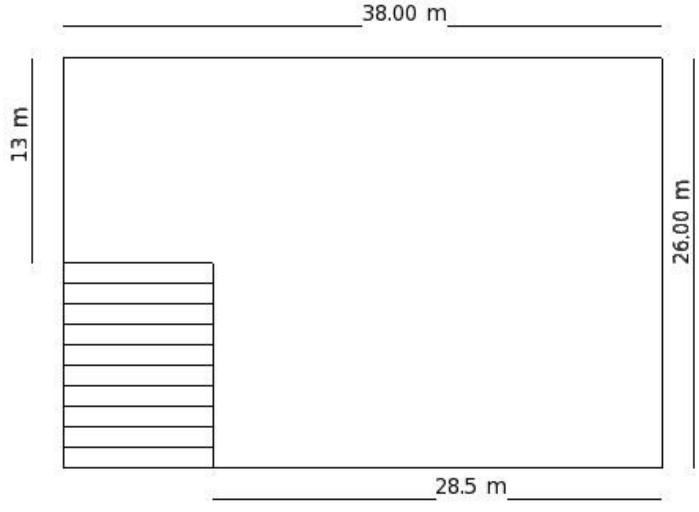
e) $P(E) + P(\text{not } E) = 1$

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

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

(i) $\frac{21}{44}$ (ii) $\frac{23}{43}$ (iii) $\frac{21}{43}$ (iv) $\frac{19}{43}$ (v) $\frac{20}{43}$

15. A missing helicopter is reported to have crashed somewhere in the rectangular region shown in fig. What is the probability that it crashed inside the shaded region as shown in the figure?



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

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

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

17. A box contains 28 red marbles, 52 yellow marbles, 12 blue marbles and 56 orange marbles. One marble is drawn at random from the box. Find the probability that the marble drawn is neither orange nor blue.

(i) $\frac{21}{38}$ (ii) $\frac{21}{37}$ (iii) $\frac{19}{37}$ (iv) $\frac{20}{37}$ (v) $\frac{17}{37}$

18. When two coins are tossed simultaneously, how many elementary events are possible?

(i) 4 (ii) 2 (iii) 5 (iv) 6 (v) 3

19. In a lottery, there are 15 prizes and 11 blanks. What is the probability of getting a prize?

(i) $\frac{11}{26}$ (ii) $\frac{15}{26}$ (iii) $\frac{8}{13}$ (iv) $\frac{16}{27}$ (v) $\frac{7}{13}$

20. A box contains 40 discs which are numbered from 1 to 40. If one disc is drawn at random from the box, find the probability that it bears a number divisible by 5.

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

21. 234 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	45	90	99

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

(i) $\frac{5}{13}$ (ii) $\frac{6}{13}$ (iii) $\frac{3}{7}$ (iv) $\frac{8}{13}$ (v) $\frac{4}{13}$

22. Three unbiased coins are tossed simultaneously. Find the probability of getting at least two heads.

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

23. A die is thrown 400 times. The number 3 appears on the upper face 80 times. Now the die is thrown at random. What is the probability of getting a 3 ?

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

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 face card ?

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

25. Two coins are tossed simultaneously 80 times and it was observed that both tails appeared 35 times. If two coins are tossed simultaneously at random, what is the probability of getting both tails?

(i) $\frac{7}{16}$ (ii) $\frac{8}{17}$ (iii) $\frac{1}{2}$ (iv) $\frac{9}{16}$ (v) $\frac{3}{8}$

Assignment Key

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

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