EduSahara™ Worksheet

Name : Chapter Based Worksheet

Chapter : Probability

Grade : SSC Grade IX

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1. 95 cards are numbered 1,2,3,....95 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) $\frac{1}{3}$ (ii) 0 (iii) $\frac{4}{5}$ (iv) $\frac{2}{5}$ (v) $\frac{1}{5}$

2. A bag contains 18 gray balls, 45 yellow balls, 36 black balls and 45 orange balls. One ball is drawn at random from the bag. Find the probability that the ball drawn is not yellow.

(i) $\frac{3}{4}$ (ii) $\frac{5}{8}$ (iii) $\frac{5}{16}$ (iv) $\frac{12}{17}$ (v) $\frac{11}{16}$

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

a) $\frac{7}{2}$

b) 0.14

c) $\frac{2}{8}$

d) 3

e) -5.1

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

4. A lot of 38 bulbs contain 14 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) $\frac{12}{19}$ (ii) $\frac{22}{37}$ (iii) $\frac{23}{37}$ (iv) $\frac{14}{37}$ (v) $\frac{24}{37}$

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 clubs?

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

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

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

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

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

8. One card is drawn at random from a well shuffled deck of 52 cards. What is the probability that the card drawn is '6' of spades?

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

9. In a lottery, there are 28 prizes and 20 blanks. What is the probability of not getting a prize?

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

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

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

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

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

12. In a musical chair game, the person playing the music has been advised to stop playing the music at any time with in 2 minutes after she starts playing. What is the probabilty that the music will stop within the first half-minute after starting?

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

13. If $P(E) = 0.2$, find $P(\overline{E})$

(i) 1.8 (ii) 0.8 (iii) 8.8 (iv) 2.8 (v) 7.8

14. On a particular day, at a crossing in a city, the various types of 155 vehicles going past during a time-interval were observed as under:

| **Type of Vehicle** | Two-wheeler | Four-wheeler | Three-wheeler |
|---|---|---|---|
| **Frequency** | 40 | 55 | 60 |

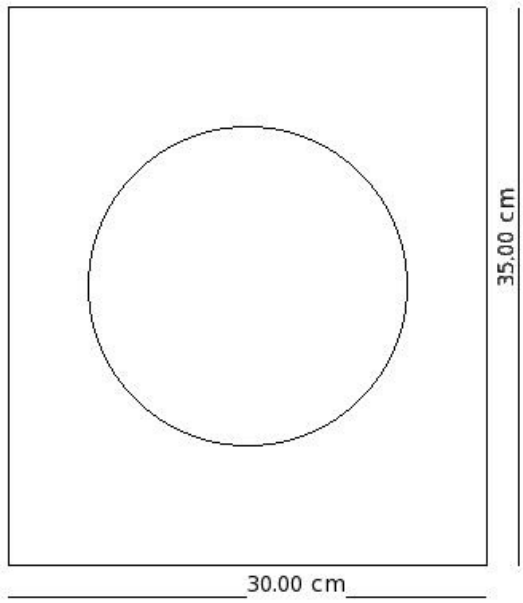
Out of these vehicles, if one is choosen at random, what is the probability that the choosen vehicle is a 'Three-wheeler' ?

(i) $\frac{19}{31}$ (ii) $\frac{11}{31}$ (iii) $\frac{13}{32}$ (iv) $\frac{13}{31}$ (v) $\frac{12}{31}$

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

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

16. 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 20.00 cm?




(i) $\frac{43}{147}$ (ii) $\frac{15}{49}$ (iii) $\frac{45}{148}$ (iv) $\frac{103}{147}$ (v) $\frac{44}{147}$

17. A lot of 22 bulbs contain 17 defective ones. One bulb is drawn at random from the lot. What is the probability that this bulb is defective ?

(i) $\frac{9}{11}$ (ii) $\frac{18}{23}$ (iii) $\frac{5}{22}$ (iv) $\frac{17}{22}$ (v) $\frac{8}{11}$

18. A survey of 130 men showed that only 50 of them know Sanskrit. Out of these men, if one is selected at random, what is the probability that the selected man knows Sanskrit?

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

19. One card is drawn at random from a well shuffled deck of 52 cards. What is the probability that the card drawn is '4' of red suit ?

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

20. There are 54 students in a class room of whom 24 are boys and 30 are girls. From these students, one is choosen at random. What is the probability that the choosen student is a girl ?

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

21. Three unbiased coins are tossed simultaneously. Find the probability of getting at least one head.

(i) $\frac{7}{8}$ (ii) $\frac{1}{8}$ (iii) $\frac{8}{9}$ (iv) 1 (v) $\frac{3}{4}$

22. Two coins are tossed simultaneously 60 times and it was observed that both tails appeared 20 times. If two coins are tossed simultaneously at random, what is the probability of getting both tails?

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

23. A bag contains 35 orange balls, 45 yellow balls, 65 black balls and 70 gray balls. One ball is drawn at random from the bag. Find the probability that the ball drawn is neither gray nor orange.

(i) $\frac{23}{43}$ (ii) $\frac{21}{43}$ (iii) $\frac{23}{44}$ (iv) $\frac{22}{43}$

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

25. Which of the following are true?

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

b) P(E) - P(not E) = 0

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

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

e) P(E) + P(not E) = 1

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

## Assignment Key

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