Work Sheet

on

Probability

Aptitude Training Course

BOARD INFINITY

Work-sheet on Probability

1. Salil hits 6 balls out of 10 bowled to him in a game of cricket. What is the probability of Salil hitting the next ball bowled to him?
   (a) 2/5 (b) 3/5 (c) 4/5 (d) 1/5

2. A bag contains 8 white balls and some yellow balls. If the probability of drawing a white ball is twice of a yellow ball, then the number of yellow balls in the bag is
   (a) 2 (b) 3 (c) 4 (d) 6

3. A bag is full of 20 bananas and no other fruit. Rajeev draws a fruit from the bag. What is the probability that he will draw a banana?
   (a) 1 (b) 0 (c) 1/2 (d) None of the above

4. 3 individuals John Wright, Greg Chappell and Gary Kristen are in the race for the appointment of new coach of team India. The probabilities of their appointment are 0.50.30.2 respectively.If John Wright is appointed then probability of Ganguly appointed as a captain will be 0.7 and the corresponding probability if Greg Chappell or Gary Kristen is appointed are 0.6 or 0.5 respectively. Find the overall probability that Ganguly will be appointed as a captain? A. 0.18 B. 0.35 C. 0.63 D. 0.89

   (a) 0.18 (b) 0.35 (c) 0.63 (d) 0.89

5. A group is analyzing quality control problems. Suppose that the probability of a defective shape is 0.03 and the probability of a defective paint job is 0.06. What is the probability of a non-defective item?
   (a) 0.09 (b) 0.18 (c) 0.32 (d) 0.9118

6. Find the chance of throwing more than 9 in one throw with 2 dice.
   (a)2/3 (b) 5/36 (c) 5/18 (d) 1/6

7. The probability of finishing a test on time by A is 1/2, by B is 2/3 and by C is 3/5. If all of them write the test independently, then what is the probability that just two of them are able to write the test on time?
   (a) 1/2 (b) 3/10 (c) 13/30 (d) 1/3

8. A bag contains 5 oranges, 4 bananas and 3 apples. Rohit wants to eat a banana or an apple. He draws a fruit from the bag randomly. What is the probability that he will get a fruit of his choice?
   (a)3.5/12 (b) 7/12 (c) 5/12 (d) None of the above

9. Ravi has a bag full of 10 Nestle and 5 Cadbury chocolates. Out of these, he draws two chocolates. What is the probability that he would get at least one Nestle chocolate?
   (a) 19/21 (b) 3/7 (c) 2/21 (d) 1/3

10. A software engineer creates a LAN game where an 8 digit code made up of 1, 2, 3, 4, 5, 6, 7, 8 has to be decided on, as a universal code. There is a condition that each number has to be used and no number can be repeated. What is the probability that first 4 digits of the code are even numbers?
    (a) 1/70 (b) 1/840 (c) 1/8 (d) 1/40320

11. A box contains 10 balls numbered 1 through 10. Anuj, Anisha and Amit pick a ball each, one after the other, each time replacing the ball. What is the probability that Anuj picks a ball numbered less than that picked by Anisha, who in turn picks a lesser numbered ball than Amit?
    (a) 3/25 (b) 1/6 (c) 4/25 (d) 81/400

12. A single letter is drawn at random from the word, "ASPIRATION", the probability that it is a vowel is?
    (a)1/2 (b) 1/3 (c) 3/5 (d) 2/5

13. Ritu visited a mall where tokens are given while submitting the belongings at the entrance. Tokens are lettered a, b, c, …, z. Guard gives the token at random. What is the probability that token given to Ritu is consonant?
(a) 5/21 (b) 21/26 (c) 5/26 (d) 26/21

14. ABCD is a square. PQRS is a rhombus lying inside the square such that P, Q, R and S are the mid-points of AB, BC, CD and DA respectively. A point is selected at random in the square. Find the probability that it lies in the rhombus.
(a)1/3 (b) 2/3 (c) 1/2 (d) ¼

15. Five students have not been absent for the entire first semester. They are asked to draw one pass each from a bag that has 5 movie passes and 5 meal passes. Parul and Mini are the first two students to draw the pass simultaneously. What is the probability that they both draw movie passes?
(a) 5/6 (b) 1/2 (c) 2/9 (d) 4/5

16. A bird lay two to five rounded white eggs. Suppose the bird lays two eggs. What is the probability that the first egg hatched is a female bird and the second egg hatched is a male bird?
(a) 1/4 (b) 1/2 (c) 3/4 (d) 2/3

17. In a garden, 70% of the flowers are roses and the rest are lilies. If 1/2 of roses and 7/8 of lilies are yellow, find the probability that a yellow flower selected at random is rose.
(a) 1/7 (b) 2/7 (c) 3/7 (d) 31/61.25

18. A person forgets the last two digits of user ID for a website. He remembers that both digits are odd. What is the probability of him typing the correct last digit by randomly typing 2 odd digits?
(a) (1/25) (b) (1/5) (c) (1/2) (d) (2/5)

19. Ritu has 3 shirts in shades of red, 4 in yellow shades and 5 in green shades. Three shirts are picked at random. The probability that all of these are in red shades is
(a) (1/12) (b) (1/220) (c) (1/66) (d) (1/4)

20. A coin is tossed thrice. What is the probability that the first toss of coin lands head, second tail and third land tail as well?
(a) 1/16 (b) 3/8 (c) 1/8 (d) None of these

21. A, B, C, D and E play the following game. Each person picks one card from cards numbered 1 through 10. The person who picks the greatest numbered card loses and is out of the game. Now the remaining four return their cards to the pack and draw again, and again the person with the greatest numbered card loses. This process is repeated till only one person is left in the game who is declared as the winner. What is the probability that A is the winner?
(a) 3/14 (b) 4/17 (c) 1/5 (d) 5/24

22. A team uses 2 dice for deciding the person who would give a talk on "Technical aspects of effective communication". Shalini will give a talk only if the product of 2 numbers that turn up is greater than 20. What is the probability that Shalini would talk on the subject?
(a) 1/3 (b) 1/9 (c) 2/9 (d) 1/12 (e) 1/6

23. If P(E) is the probability that an event will occur, which of the following must be false?
(a) P(E) = 1 (b) P(E) = ½ (c) P(E) = 1/3 (d) P(E) = –1

24. What is the probability of getting at least one tail, when two coins are tossed simultaneously?
(a) ¾ (b) ¼ (c) ½ (d) 1

25. Nitin has 8 grey socks and 8 white socks. He pulls two socks randomly without looking at them. What is the probability that both are white?
(a) 1/8 (b) 8/30 (c) 1/2 (d) 7/30

26. An unbiased dice is rolled 5 times and the outcomes are 1, 2, 3, 4 and 5 respectively. If it is rolled again, what is the probability that the outcome is 6?
(a) 1 (b) 5/6 (c) 1/6 (d) None of the above

27. A salesman has a record of selling even rejected pieces to his customers without letting them know that the product is actually faulty. His skills are rated with a probability of 80% efficiency. If he is given 20 faulty items, how many will he be able to sell?
(a) 80 (b) 20 (c) 16 (d) 4

28. A manufacturing plant produces a batch of 10 containers out of which 4 are defective. In a quality inspection test, 3 containers are chosen at random. What is the probability that at least one would be defective?
(a) 0.25 (b) 3/10 (c) 0.784 (d) 5/6

29. Varun is guessing which of the 2 hands holds a coin. What is the probability that Varun guesses correctly three times in a row?
(a) (1/6) (b) (1/2) (c) (1/4) (d) (1/8)

30. A jar contains 5 white, 8 red, 2 blue and 3 black balls. Find the probability that a ball drawn at random is red or blue?
(a) 4/9 (b) 5/9 (c) 2/7 (d) 1/5

31. A group of 6 is to be made out of 8 girls and 6 boys. What is the probability that exactly 3 boys are selected?
(a) $({}^{8}C_3 * {}^{6}C_3)/ {}^{14}C_6$ (b) ${}^{8}C_3 / {}^{14}C_6$ (c) 3/4 (d) ½

32. 40% of a company staff are females. What is the probability that a set of 7 records of the employees taken at random from the cupboard has 2 records of female staff?
(a) ${}^{7}P_2 * (0.40)^5 * (0.60)^2$ (b) ${}^{7}P_2 * (0.40)^2 * (0.60)^5$
(c) ${}^{7}C_2 * (0.40)^2 * (0.60)^5$ (d) ${}^{7}C_2 * (0.40)^5 * (0.60)^2$

33. If seven persons sit around a table , the probability that three particular persons always sit together is

(a) 4/5 (b) 1 (c) 1/5 (d) 1/7

34. In a single throw of two dice, find the probability of getting a sum at least 10

(a) 1/12 (b) 1/6 (c) ¼ (d) 1/2

35. Two dice are thrown. Find the odds in favor of getting the sum 4.

(a) 1:11 (b) 11:1 (c) 4:11 (d) 11:4

36. In a simultaneous throw of two dice, find P (A or B) if A denotes the event 'a total of 11 and B denotes the event' 'an odd number on each die'.

(a) 11/36 (b) ¼ (c) 5/18 (d) 1/6

37. A binary number is made up of 8 digits. Suppose that the probability of an incorrect digit appearing is p and that the errors in different digits are independent of each other. Then the probability of forming an incorrect number is

(a) p^8 (b) p/8 (c) $(1-p^8)$ (d) $1-(1-p)^8$

38. In the West Indies, there is a 3-match one-day international tournament between West Indies and India. At the end of every match, either a team wins or loses. There is no draw. Find the probability that India wins the series by winning at least 2 consecutive matches

(a) 1 (b) 5/8 (c) 3/8 (d) 1/2

39. 7 Indians, 4 Americans and 2 Germans are to be seated on 13 chairs for a photograph. If a photograph is clicked, what is the probability that in the photo no two Indians are together?

(a) 7!4!2!/13! (b) 7!6!/13! (c) 7!/13! (d) 7/13

40. In a bag containing three balls, a white ball was placed, and then one ball was taken out at random. What is probability that the extracted ball would turn out to be white, if all possible hypothesis concerning the color of the balls that were initially in the bag were equally possible?

(a) 5/8 (b) 3/4 (c) 1/2 (d) 3/8