

**X Mathematics Assignments Chapter: probability****Directions for 1 – 4: State true or false**

1. If the probability of a candidate winning an election is 80%, then the probability of the opponent winning the election is also 80%.
2. If two dice are thrown simultaneously then the total number of outcomes is 12.
3. A throws a coin twice and 'B' throws a similar coin thrice, the possibility of getting 'all heads' is more for 'B' than 'A'.
4. The sum of the probability of an event happening and the same not happening is always the same.  
1. F            2. F            3. F            4. F
5. An unbiased die is thrown. What is the probability of getting?  
(i) an even number? (ii) a multiple of 5? (iii) an even number or a multiple of 3? (iv) a multiple of 2 and 3?
6. Two unbiased coins are tossed simultaneously. What is the probability of getting (i) all heads? (ii) at least one head? (iii) at the most one tail? (iv) at least one head and one tail?
7. Two dice are thrown simultaneously. What is the probability of getting?  
(i) an odd number as the sum? (ii) a total of at least 10? (iii) the same number on both dice? (iv) a sum greater than 10?
8. Find that the probability of a leap year selected at random will contain 53 Mondays.
9. One card is drawn from a pack of 52 cards. What is the probability of getting  
(i) an ace or a king? (ii) a red card and a king? (iii) a face card? (iv) a king or a queen or a jack?
10. All the face cards are removed from a pack of 52 cards and are then shuffled well. One card is selected from the remaining cards. What is the probability of  
(i) getting an ace? (ii) getting a red card? (iii) getting 10 of spade? (iv) getting a number less than 5?
11. A bag contains five red balls and some white balls. If the probability of drawing a white ball is double that of a red ball, find the number of white balls in the bag.
12. A bag contains 20 balls out of which 'x' are red.  
(i) If one ball is drawn at random, what is the probability that it will not be a white ball?  
(ii) If five more red balls are added, the probability of drawing a red ball will become 40%. Find the number of balls which are not red.

13. 1000 tickets of a lottery were sold and there are three prizes in the lottery. If Sachin has purchased one ticket, what is the probability of his winning a prize?
14. 26 cards marked with English letters A to Z (one letter on each card) are shuffled well. If one card is selected at random, what is the probability of getting?
- (i) a vowel? (ii) a letter in the word PROBABILITY?
- 50 Mohan and Salim are friends. What is the probability that both will have
- (i) the same birthday? (ii) different birthdays?
- (iii) their birthday on the same weekday?
15. A jar contains 24 marbles. Some are blue and the others are green. If a marble is drawn at random, the probability that it is green is  $\frac{3}{2}$ . Find the number of blue marbles in the jar.
52. What is the probability that a number selected at random from the numbers 10, 20, 20, 30, 30, 30, 40, 40, 40 will be their mean?
16. A game consists of tossing a coin three times and noting the outcome each time. If one gets the same outcome in all the three tosses, then he wins. What is the probability of a participant winning the game?
16. While shuffling a pack of 52 cards, Khushi dropped one card by mistake. What is the probability of the dropped card being a red queen?
17. A die is numbered in such a way that its faces show the numbers 1, 2, 2, 3, 3, 6. It is thrown twice and the total score in two throws is noted. Find the sample space of the experiment. What is the probability that the total score (i) is even? (ii) is odd? (iii) is at least 5?
18. A circle of diameter 7 cm is drawn inside a rectangle of dimensions 15 cm  $\times$  7 cm. If a coin is dropped randomly inside the rectangle, what is the probability that the coin lands inside the circle?
19. A piggy bank contains one hundred 50 p coins, fifty Re 1 coins, twenty Re 2 coins and ten Re 5 coins. If it is turned upside down one coin will fall. When Gautam turned it up side down for the first time, he got a Rs 2 coin. If he turns it upside down for a second time, what is the probability of getting
- (i) an amount more than Re 1? (ii) a Rs 5 coin? (iii) a 50 p coin or Re 1 coin? (iv) at least one rupee?
20. In a game, Raju asks his friend Karan to write down a two-digit number secretly. What is the probability that Karan will write a doublet? What is the probability that Karan's number is divisible by 2, 3 and 5?
21. Two customers, Mohan and Nishu are visiting a shop in the same week (Sunday to Saturday). Each is likely to visit the shop on any day as on any other day. What is the probability that both will visit the shop on (i) the same day? (ii) Consecutive days?