

INTERNATIONAL INDIAN SCHOOL BURAIDAH

Worksheet - 04 (2022 – 2023)

Class- 12 - MATHEMATICS

Chapter – 13 – Probability

1. A die is thrown twice and the sum of the numbers appearing is observed to be 8. What is the conditional probability that the number 5 has appeared at least once?
2. A problem in Mathematics is given to 3 students whose chances of solving it are $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$. What is the probability that the problem is solved.
3. In the two dice experiment, A is the event of getting the sum of the numbers on dice as 11 and B is the event of getting a number other than 5 on the first die, find $P(A \text{ and } B)$. Are A and B independent events?
4. Two dice are thrown once. Find the probability of getting a total of 8, if it is given that doublet has appeared.
5. A pair of dice is thrown once. Find the probability of getting a total of 8, if it is given that second die shows a prime number.
6. Three cards are drawn with replacement from a well shuffled pack of cards. Find the probability that i) the cards drawn are king, queen and jack. ii) the cards drawn are king queen and jack respectively.
7. Three cards are drawn without replacement from a well shuffled pack of cards. Find the probability that i) first two are kings and third is ace ii) two are kings and one is ace
8. A bag contains 2 red and 3 black balls. Find the probability distribution of the number of red balls if 4 balls are drawn out i) with replacement ii) without replacement.
9. A die is loaded in such a way that an even number is twice likely to occur as an odd number. If the die is tossed twice, find the probability of the number of perfect squares in the two tosses.
10. A fair die is tossed twice, if the number appearing on the top is less than 3, it is a success. Find the probability distribution of the number of successes.
11. One bag contains 4 yellow and 5 red balls. Another bag contains 6 yellow and 3 red balls. A ball is transferred from the first to the second and then a ball is drawn from the second bag. Find the probability that the ball drawn is yellow
12. A speaks the truth 8 times out of 10 times. A die is tossed He reports that it was 5. What is the probability that it was actually 5?
13. Find the probability distribution of number of doublets in four throw of a pair of dice.