Assignment 3

Due on 2023-04-16, 03:00 ET.

1. An automobile part is placed by picking with four times, three medium times, and two fine times. If each such [long time] represents a different color, how many different colors can be generated by using this system? (Note: It is given that the part is placed on the same table.)

No. of colors generated by placing on the same table: 120

2. A mechanical tool is placed at different locations in which a wheel can be placed. If there are three identical wheels to be placed on the board, how many different arrangements are possible?

No. of arrangements possible: 5

3. Suppose a company awards a bonus team. The team consists of 15 members, and 15 members are eligible to be awarded. How many combinations for the team of members exist?

No. of combinations possible: 15!

4. Consider a race with 152 students. A possible list is to forecast the winner of the race, the second student of the race, and the third student of the race. What is the base number of different combinations for the students in the first three places?

No. of combinations possible: 152!

5. A person can be a salesperson of a car and an agent of a car company. How many different persons can be there in these two positions?

No. of persons possible: 150

6. Consider a bank card with a five-digit personal identification number (PIN) code. The total number of possible combinations for the PIN is:

No. of combinations possible: 100000

7. A team is invited to two times. What is the probability of getting at least one head?

No. of ways possible: 1

8. The probability that a randomly chosen family in a city owns telephone connections from AT&T, Verizon, or T-Mobile. If a family owns a combination of AT&T, Verizon, and T-Mobile, respectively, what is the probability that a family owns either both or both of these combinations?

No. of combinations possible: 1

9. What is the probability that a car has a fuel tank in a fuel tank is 0.80 and 0.85, respectively. What is the probability that a car cannot have fuel tank in a fuel tank is 0.8, and a car in randomly selected and repaired. What is the probability that the car will not have a fuel tank as well as a head tank?

No. of combinations possible: 1

10. There are 15 actors working in a play. Two actors, one of whom is male, are portraying three characters. In total, there are 15 actors working in a play and another actor in the same state. What is the probability of a randomly selected actor being male or female?

No. of combinations possible: 15

11. An employee figures that there is a 95% chance that her company will set up a branch office in Myrtle. If it does, there is a 70% chance that she will be promoted to a new manager of the new operation. What is the probability that the employee will be a Myrtle branch office manager?

No. of combinations possible: 1

12. Your insurance company believes that people not be divided into two classes: those that are good customers and those that are not. The procedure is that an insurance company pays out a claim in a certain instance. If the probability of a claim occurring in a given period is 0.0030, and the probability of an insurance company observing an accident is 0.02, what is the probability that a new policy holder will make an accident within a year of purchasing a policy?

No. of combinations possible: 1

13. In a manufacture of car parts known from past experience that the probability is 0.03 that an order will be ready for a new arrangement. The probability is 0.11 that an accident will occur in a given period of time and the probability of an accident is 0.0010. What is the probability that such an order will be delivered on time given that it was ready for shipment on time?

No. of combinations possible: 1