**Q1. In a town of 10000 families it was found that 40% of families buy newspaper A, 20% family buy newspaper B, 10% family buy newspaper C, 5% family buy newspaper A and B, 3% family buy newspaper B and C and 4% family buy newspaper A and C. If 2% family buy all the newspaper. Find the number of families which buy**

1. **Number of families which buy all three newspapers.**
2. **Number of families which buy newspaper A only**
3. **Number of families which buy newspaper B only**
4. **Number of families which buy newspaper C only**
5. **Number of families which buy None of A, B, C**
6. **Number of families which buy exactly only one newspaper**
7. **Number of families which buy newspaper A and B only**
8. **Number of families which buy newspaper B and C only**
9. **Number of families which buy newspaper C and A only**
10. **Number of families which buy at least two newspapers**
11. **Number of families which buy at most two newspapers**
12. **Number of families which buy exactly two newspapers**

**Q2. There are 350 applicants to a job, and (i) 220 with major in CS (ii) 147 with major in Business (iii) 51 with major in both CS and Business • How many have major neither in CS nor Business ?**

**Q3. Among 50 patients admitted to a hospital, 25 are diagnosed with pneumonia, 30 with bronchitis, and 10 with both pneumonia and bronchitis. Determine:**

**(a) The number of patients diagnosed with pneumonia or bronchitis (or both).**

**(b) The number of patients not diagnosed with pneumonia or bronchitis.**

**Q4 A large software development company employs 100 computer programmers. Of them, 45 are proficient in Java, 30 in C#, 20 in Python, six in C# and Java, one in Java and Python, five in C# and Python, and just one programmer  is proficient in all three languages above.**

**Determine the number of computer programmers that are not proficient in any of these three languages.**

**Q4 There are 350 farmers in a large region. 260 farm beetroot, 100 farm yams, 70 farm radish, 40 farm beetroot and radish, 40 farm yams and radish, and 30 farm beetroot and yams. Let B, Y, and R denote the set of farms that farm beetroot, yams and radish respectively.**

**Determine the number of farmers that farm beetroot, yams, and radish.**

**Q5 Among 18 students in a room, 7 study mathematics, 10 study science, and 10 study computer programming. Also, 3 study mathematics and science, 4 study mathematics and computer programming, and 5 study science and computer programming. We know that 1 student studies all three subjects. How many of these students study none of the three subjects?**

**Q6 In a math contest, three problems, A, B, and C were posed. Among the participants there were 25 who solved at least one problem. Of all the participants who did not solve problem A, the number who solved problem B was twice the number who solved C. The number who solved only problem A was one more than the number who solved A and at least one other problem. Of all participants who solved just one problem, half did not solve problem A. How many solved just problem B?**

**Q7 Of 28 students taking at least one subject, the number taking Math and English but not History equals the number taking Math but not History or English. No student takes English only or History only, and six students take Math and History but not English. The number taking English and History but not Math is 5 times the number taking all three subjects. If the number taking all three subjects is even and non-zero, how many are taking English and Math but not History?**

**Q8 In a survey of the chewing gum tastes of a group of baseball players, it was found that: 22 liked juicy fruit; 25 liked spearmint; 39 like bubble gum; 9 like both spearmint and juicy fruit; 17 liked juicy fruit and bubble gum; 20 liked spearmint and bubble gum; 6 liked all three; Given that four liked none of the above, how many baseball players were surveyed?**

**Q9 Among 18 students in a room, 7 study mathematics, 10 study science, and 10 study computer programming. Also, 3 study mathematics and science, 4 study mathematics and computer programming, and 5 study science and computer programming. We know that 1 student studies all three subjects. How many of these students study none of the three subjects?**