Set Theory

In a survey conducted at a University, it was found that 51% of the students wanted to learn French as a foreign language, 48% wanted to learn German and 52% wanted to learn Russian.

Of the surveyed students, 21% wanted to learn both French and German, 23% wanted German and Russian and 24% wanted French and Russian. Only 12% wanted to learn all three languages. A total of 500 students were surveyed.

1. How many students wanted to learn only German?

A.76 B.80 C.82 D.90

2. What is the number of students interested in French and Russian only?

A.50 B.55 C.60 D.65

3. How many more students (apart from those who wanted to learn French and Russian only) were interested in either French or Russian?

A.320 B.325 C.330 D.335

4. How many students were not interested in any of the languages?

A.25 B.30 C.35 D.40

5. What is the ratio of the number of students interested in exactly two languages to those interested in only one language?

A.30/51 B.32/51 C.40/51 D.42/51

6. A survey was conducted of 100 people to find out whether they had read recent issues of Golmal, a monthly magazine. The summarized information regarding readership in 3 months is given below:

Only September: 18; September but not August: 23; September and July: 8; September: 28; July: 48; July and August: 10; None of the three months: 24.

What is the number of surveyed people who have read exactly two consecutive issues (out of the three)?

A.7 B.9 C.12 D.14

7. At a T-shirt auction, 42 Reds United T-shirts were sold and 30 Blues T-shirts were sold. No one bought more than one T-shirt of the same type and everyone bought at least one. If 60 people participated in the auction, how many bought both T-shirts?

A.10 B.12 C.14 D.16

At the annual sports meet, 106 sportsmen participated in hockey, 122 in football and 120 in cricket. It is known that 48 participated in hockey and football and 70 in football and cricket. A total of 200 sportsmen participated in the meet.

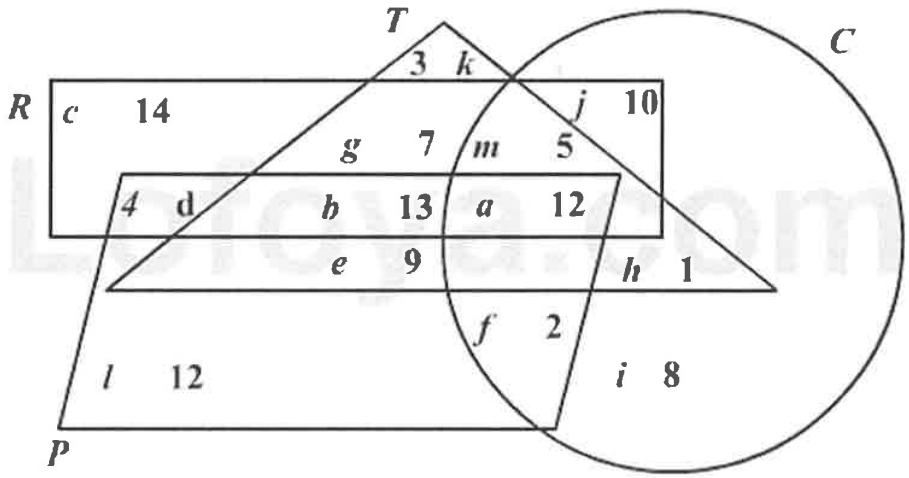
8. If 10 sportsmen did not participate in any sport and 54 participated in hockey and cricket, how many participated in all three?

A.11 B.12 C.13 D.14

9. How many sportsmen did not participate in either cricket or football? Assume data from the common data question 1 to be valid.

A.25 B.27 C.28 D.30

10. In a drawing competition, students were asked to draw geometric figures of their choice. The following Venn diagram represents the number of students and their choices of geometric figures. Each geometric figure on the Venn diagram represents the set of students who chose to draw that particular geometric figure



11. How many students drew all the figure types?

A.10 B.11 C.12 D.13

12. How many students drew figures with no curves involved?

A.62 B.63 C.64 D.64

13. How many students drew polygons with sum of internal angles less than 200°

A.30 B.40 C.50 D.60

14. How many students drew any two figures only?

A.22 B.33 C.44 D.55

15. 70 percent of the employees in a multinational corporation have VCD players, 75 percent have microwave ovens, 80 percent have ACs and 85 percent have washing machines. At least what percentage of employees has all four gadgets?

A.15% B.5% C.10% D.CANNOT BE DETERMINE

After a successful T20 cricket tournament, Indian Premier League (IPL) is interested in launching a new variant of One Day International cricket called T40 (forty overs a side game). Indian Cricket League (ICL, a rival league of IPL) also has similar thoughts. An independent agency conducted a survey of 1000 respondents to determine the consumer preference of IPL versus ICL, and preference of T20 versus T40. Unfortunately, some of the survey information are lost. The following information is available:

1. 70 percent of the respondents prefer T20 over T40.
2. 80 percent of the respondents prefer IPL over ICL.
3. 80 percent of those who preferred IPL preferred T20 over T40.

16. Determine the number of respondents who prefer both T20 and ICL.

A.50 B.60 C.140 D.640

17. Determine the number of respondents who prefer both T40 and IPL.

A.60 B.140 C.160 D.640

18. In a class of 120 students numbered 1 to 120, all even numbered students opt for Physics, those whose numbers are divisible by 5 opt for Chemistry and those whose numbers are divisible by 7 opt for Math. How many opt for none of the three subjects?

A.19 B.41 C.21 D.57

19. In a class of 40 students, 12 enrolled for both English and German. 22 enrolled for German. If the students of the class enrolled for at least one of the two subjects, then how many students enrolled for only English and not German?

A.30 B.10 C.18 D.28

820 ?