Venn Diagram Questions

Question 1: A shop sells three type of products i.e. Pen, Pencil & Notebook. On a survey for checking the sales of each product of the shop he found that the no. of people who bought only pen, only pencil, & only notebook are in A.P. in no particular order. Similarly, the number of people who bought exactly two of the three products are in A.P. too.

It was also found that the no. of people who bought all the products is 1/20th of the number of people who bought pencil only which in turn is equal to half of the number of people who bought notebook only. The number of people that bought both pen & pencil is 15, whereas that of those who bought pencil & notebook is 19. The number of people who bought notebook are 120, which is more than the no. of people who bought pen (which is a 2 digit no above 50).

What is the total no people that visits the shop?

A. 220
B. 231
C. 233
D. 240

Question 2: Of 60 students in a class, anyone who has chosen to study maths elects to do physics as well. But no one does maths and chemistry, 16 do physics and chemistry. All the students do at least one of the three subjects and the number of people who do exactly one of the three is more than the number who do more than one of the three. What are the maximum and minimum number of people who could have done Chemistry only?

A.40, 0
B.28, 0
C.38, 2
D.44, 0

Question 3 : Set P comprises all multiples of 4 less than 500. Set Q comprises all odd multiples of 7 less than 500, Set R comprises all multiples of 6 less than 500. How many elements are present in $P \cup Q \cup R$?

A. 202
B. 243
C. 228
D. 186

Question 4: 95% of the students in a class have taken Marketing, 80% have chosen Finance, 84% have chosen operations (ops), and 90% have chosen Human Resources (HR). What is the maximum and minimum percentage of people who have chosen all of the four?

A. 80% and 56%
B. 95% and 53%
C. 80% and 49%
D. 80% and 51%

Question 5: Students in a college have to choose at least two subjects from chemistry, mathematics and physics. The number of students choosing all three subjects is 18, choosing mathematics as one of their subjects is 23 and choosing physics as one of their subjects is 25. The smallest possible number of students who could choose chemistry as one of their subjects is

A.22
B.19
C.20
D.21

Question 6 : A club has 256 members of whom 144 can play football, 123 can play tennis, and 132 can play cricket. Moreover, 58 members can play both football and tennis, 25 can play both cricket and tennis, while 63 can play both football and cricket. If every member can play at least one game, then the number of members who can play only tennis is

A. 32
B. 43
C. 38
D. 45

Question 7. A class in college has 150 students numbered from 1 to 150 , in which all the even numbered students are doing CA, whose number are divisible by 5 are doing Actuarial and those whose numbers are divisible by 7 are preparing for MBA. How many of the students are doing nothing?

A. 37
B. 45
C. 51
D. 62

Question 8: In a class of 345 students, the students who took English, Math and Science are equal in number. There are 30 students who took both English and Math, 26 who took both Math and Science, 28 who took Science and English and 14 who took all the 3 subjects. There are 43 students who didn't take any of the subjects. Answer the following question according to the data given above.
How many students have taken English as a subject?

A. 286
B. 124
C. 246
D. 108

Question 9 : In a class of 345 students, the students who took English, Math and Science are equal in number. There are 30 students who took both English and Math, 26 who took both Math and Science, 28 who took Science and English and 14 who took all the 3 subjects. There are 43 students who didn't take any of the subjects. Answer the following question according to the data given above.
How many students have taken only one subject?

A. 286
B. 124
C. 246
D. 108

Question 10 : In a class of 345 students, the students who took English, Math and Science are equal in number. There are 30 students who took both English and Math only, 26 who took both Math and Science only, 28 who took Science and English only and 14 who took all the 3 subjects. There are 43 students who didn't take any of the subjects. Answer the following question according to the data given above.
What percent of students did not take Science?

A. Less than 55%
B. approx. 59%
C. 72%
D. 79%

Question 11: In a survey conducted to know people's preference for android phones and I phones, 80 person preferred android phones while 60 person preferred I phones. There were 20 who liked both and may prefer any. If there was no one who didn't prefer at least one of the phones, then on how many people was the survey conducted?

A. 120
B. 40
C. 80
D. 60

Question 12 : In Grand Oberoi hotel, 1160 guests are present currently. The hotel provides the following extra facilities: Gym, Swimming, Fun park, Food. During a regular survey the management team of Oberoi noticed something quite extraordinary about the extra facilities provided by them. They noticed that for every person who uses 'F' no. of facilities, there are exactly 3 persons who uses at least (F-1) no. of facilities, F = 2, 3, 4. They also found that the no. of persons who used no extra facilities is twice the no of person that used all the 4 facilities. Help the management team to find out how many persons used exactly 3 facilities.

A. 40
B. 60
C. 80
D. 100

Question 13: In its annual fest, a college is organizing three events: B-quiz, Finance and Marketing. The college has a strength of 510 students. The students were allowed to participate in any no. of events they liked. While viewing the statistics of the performance, the general secretary noticed:-

1.The number of students who participated in atleast two events were 52% more than those who participated in exactly one game.

2.The no. of students participating in 1,2 or 3 events respectively was atleast equal to 1.

3.The number of students who did not participate in any of the three events was the minimum possible integral value under these conditions.

What can be the maximum no. of students who participated in exactly 3 games?

A. 200
B. 300
C. 303
D. 304

Question 14: A factory has 80 workers and 3 machines. Each worker knows to operate atleast 1 machine. If there are 65 persons who knows to operate machine 1, 60 who knows to operate machine 2 and 55 who knows to operate machine 3, what can be the minimum number of persons who knows to operate all the three machines?

A. 15
B. 20
C. 30
D. 40

Question 15 : In a survey it was found that 10% people don't use Facebook, Twitter or Whatsapp.8% uses all the three. There are 15% who use Facebook and Twitter only, 20% who use Twitter and Whatsapp only and 20% who use Facebook and Whatsapp only. Number of people that use only Facebook, only Twitter and only Whatsapp are equal. If the survey was conducted on 1000 people, answer the following: How many people use Whatsapp only?

A. 20

B. 9

C. 15

D. 90

Answer Key

1. C, 2. A 3. A 4. C 5.C 6.B, 7.C 8.B 9. C, 10.B,11.A 12.C,13,C 14,B 15.D