# LRDI CLASS

Six students, A through F, appeared for an exam, which comprised three sections, Mathematics, Physics and Chemistry. For each student, the marks scored in the three sections are distinct and in each section, the marks scored by the six students are distinct. Further, the marks scored by any student in any section is a positive integral multiple of five. The three circular graphs given below provide the marks scored by each of the top three students, along with their names (in the shaded sectors), in each section. Further, in each graph, the percentage value given at the centre provides the sum of the top three marks scored in that section (i.e., by the top three students) as a percentage of the sum of the marks scored by all the six students in that section:
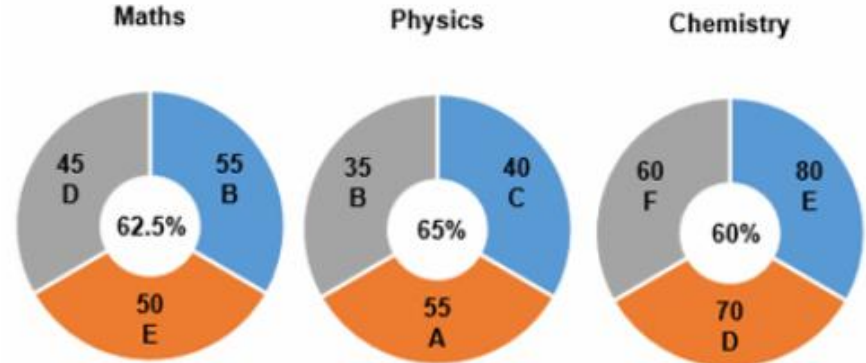
Q1. Among B, E and F, the total marks scored by which student will be the highest?
a) F   b) E   c) B   d) Cannot be determined

Q2. How many marks did C score in Chemistry?
a) 35   b) 40   c) 55   d) Cannot be determined

Q3. If the marks scored by A in Mathematics were more than that scored by him
in Chemistry, how many marks did B score in Chemistry?
a) 40   b) 50   c) 45   d) Cannot be determined

Q4. If the least marks that any of the six students scored in Chemistry were scored by B, then the marks obtained by A in Chemistry will be
a) 50.   b) 40.   c) 35.   d) 45.

Two persons, Anand and Magnus, were playing a certain number of games of chess. Each game of chess can end as a draw or a win. In the first three games that they played, the first ended as a draw, the second was won by Anand, while the third was won by Magnus. They decided to stop playing as soon as any of the following conditions was satisfied:

a. The number of games won by one player is more than twice the number of games won by the other player.
b. The number of games drawn is more than thrice the minimum number of games won by any player.

Q1. If they stopped playing after exactly 30 games, what is the maximum possible number of games that could have ended as a draw?

Q2. If, after they stopped playing, it was observed that Anand had won exactly 18 games, what is the maximum number of games that they could have played?

Q3. If, after they stopped playing, it was observed that the last 28 consecutive games that they played had all ended as draws, what is the minimum number of games that they could have played?

Q4. If, after they stopped playing, it was observed that the last 16 consecutive games were all won by Magnus, what is the minimum number of games that they could have played?

Four companies, Alpha, Beta, Gamma and Delta, manufacture ovens. In the graph below, each line represents the number of ovens manufactured by one of the four companies in each month between January and October of a particular year. The legend for the graph has been intentionally left out. Further, Beta considers Alpha their closest competitor and, in any month, always manufactures at least as many ovens as what Alpha manufactured in the previous month. Similarly, Gamma considers Beta to be their closest competitor and, in any month, always manufactures at least as many ovens as what Beta manufactured in the previous month; Delta considers Gamma to be their closest competitor and, in any month, always manufactures at least as many ovens as what Gamma manufactured in the previous month.
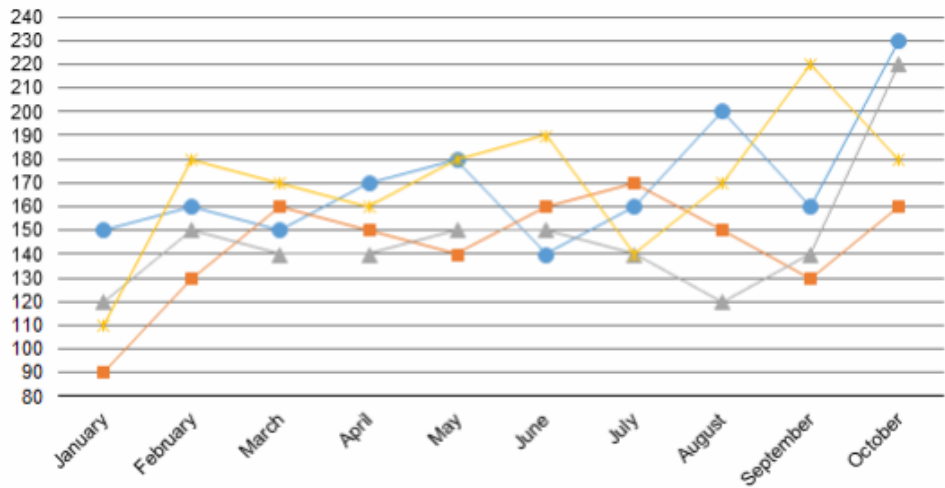
Q1. What is the difference between the number of ovens manufactured by Alpha and Gamma in May?

a) 10   b) 0   c) 30   d) 40

Q2. In how many of the given months did Beta manufacture more number of ovens than Gamma?

a) 2   b) 3   c) 4   d) 5

Q3. In how many of the given months was the number of ovens manufactured by Gamma at least 20 more than the number of ovens manufactured by Alpha?

a) 4   b) 5   c) 6   d) 7

Q4. What is the maximum percentage increase in the number of ovens sold by Delta from one month to the next?

a) 63.63%   b) 44.44%   c) 43.75%   d) 57.14%

The number of students participating in two corporate competitions P and Q from a B-school IIM A are 96 and 130 respectively. The total no. of Students participating in P and Q from all B-schools are 252 and 240 respectively. The number of students in IIM A are 190 and total no. of students in all the B-schools are 440.

Q.1. Find the number of students not from IIM A and participating in competition P only
a) 140 b) 160 c) 120 d) Cannot be determined

Q.2. Find the number of students not in IIM A and participating in both competitions P and Q?
a) 18 b) 16 c) 20 d) None of the above

Q.3. Find the number of students of IIM A participating in only competition Q
a) 96 b) 94 c) 92 d) 90

Q.4. Find the total no. of students participating in only competition Q?
a) 230 b) 94 c) 220 d) 188

There are 9 countries—A. B. C, D, E, F, G, H and I—some of which are neighboring to each other, as shown in the figure below. (For e.g , E has 3 neighboring countries (C, A and G), G has 5 neighboring countries E, C, A, I and B) and A has 8 neighboring countries.}

Alpha, Bond, Charlie, Drake, Engage, Falcon. Gordon, Hulk and Immortal are 9 detective agents that belong to one out of each of the 9 countries. The job of each agent is to spy on exactly one country that is neighboring to their country. No two agents spy on the same country.

The following information is also known:

E	G	B
C	A	I
H	D	F

1. Agent Bond spies on country H.
2. Agent Drake is from country E.
3. Agent Engage spies on country F.
4. Agent Falcon spies on country A.
5. Agent Hulk is from country F.
6. Agent Immortal is from country D.
7. None of the agents are from a country whose name starts with the same letter as the name of the agent.
8. There are exactly two agents whose name and the name of the country they are spying, start with the same letter.
10. The agent from country B spies on country G.
11. The agent from country I spies on country B.
12. Country E is being spied by the agent from country G.

Q1. Agent Bond belongs to _____.
1) Country I   2) Country C   3) Country A   4) Cannot be determined
Q2. Agent Hulk is spying Country _____.
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Q3. Agent Charlie is spying _____.
1) Country B   2) Country I   3) Country E   4) Cannot be determined
Q4. Agent _____ is from country A.
1) Engage   2) Gordon   3) Bond   4) None of these

Nuer Group, a conglomerate, comprises five companies - Pay, Qwir, Relt, Sefol and Trun. Four persons - Adam, Bill, Chandu and Devon - were made the heads of some of these five companies from 2012 to 2016. Each of the four persons headed exactly one of the five companies during each year and no person headed the same company for more than one year. No company was headed by more than one person in any year. Further, it is known that
1. when Adam was made the head of a company in any year, the revenue of the company increased by at least 10% as compared to the previous year.
2. when Bill was made the head of a company in any year, the revenue of the company decreased by at least 10% as compared to the previous year.
3. when Chandu was made the head of a company in any year, the revenue of the company increased by at least 5% as compared to the previous year.
4. when Devon was made the head of the company in any year, the revenue of the company decreased by at least 5% as compared to the previous year.
The following graph provides the percentage increase in the revenue of each of the five companies for each year, from 2012 to 2016, as compared to the previous year:

Q1. During which of the following years was none of the four persons the head of Qwir?
a) 2012   b) 2013   c) 2014   d) 2015

Q2. The head of Sefol in 2014 was the same as the head of
a) Pay in 2012.   b) Relt in 2013.   c) Trun in 2015. d) Qwir in 2015.

Q3. During the given period, what is the ratio of the revenue of Pay in the year that Adam was made its head to that in the year that Devon was made its head (approximately)?
a) 1.1765   b) 1.2757   c) 1.0236   d) 1.11

Q4. During the given period, for how many companies was Devon made the head of that company before Chandu was made the head?
a) 2   b) 1   c) 0   d) 3
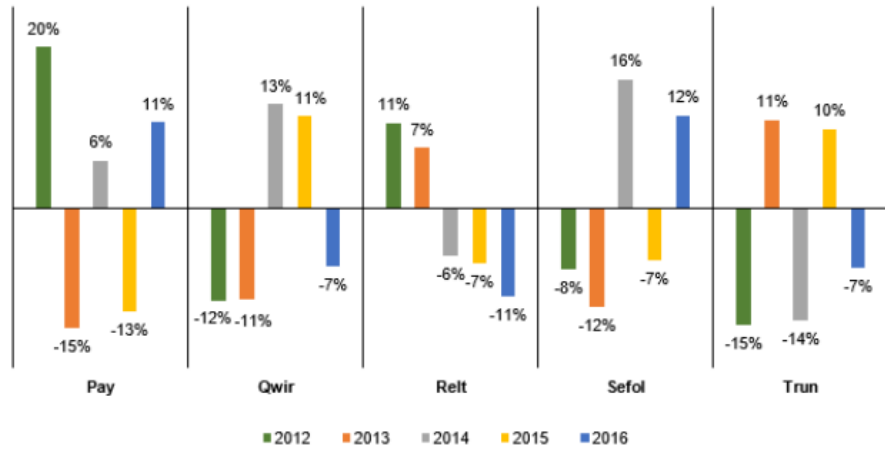
The diagram below gives a network of roads connecting two cities P and Q. There are ten junctions – A to J – enroute and any person can take a turn only at these junctions.
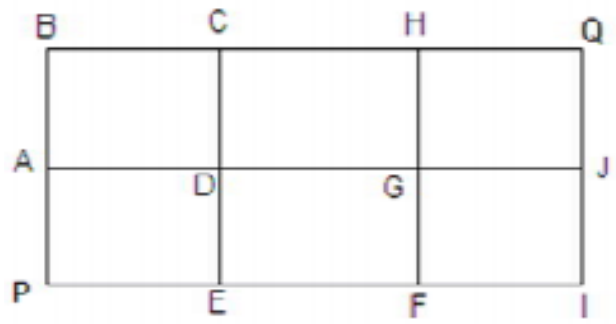
Q1. What is the maximum number of turns that a person can take to reach Q from P?

Q2. If a person takes exactly one right turn and one left turn, in any order, when travelling from P to Q, then at which of the following junctions will he never take a turn?
a) A   b) D   c) E   d) F

Q3. Which of the following is a junction where a person cannot take a right turn?
a) C   b) D   c) G   d) F