

Explanation: In the statement 1, only total number of tickets is given. We have to find purchase percentage. As purchase percentage of X and Y were given in Statement 2, we need statement 2 also. So option 3 is the correct answer

4. In Arun's opinion, his weight is greater than 65 kg but less than 72 kg. His brother does not agree with Arun and he thinks that Arun's weight is greater than 60 kg but less than 70 kg. His mother's view is that his weight cannot be greater than 68 kg. If all are correct in their estimation, what is the average of different probable weights of Arun?

- 1) 67 kg
- 2) 76 kg
- 3) 77 kg
- 4) 66 kg

Correct Option is: 1

Explanation: Let Arun's weight is X.

According to Arun, $65 < X < 72$

According to Arun's Brother, $60 < X < 70$

According to Arun's Mother, $X \leq 68$.

The values satisfying all the above conditions are 66, 67 and 68.

Required Average = $(66 + 67 + 68) / 3 = 67$.

Therefore, option 1 is the correct answer.

5. What is the value of $1*1! + 2*2! + 3*3! + \dots + n*n!$, where $n!$ means n factorial or $n(n-1)(n-2)\dots 1$. Find the value of this number in terms of 'n'

- 1) $(n + 1)! - 1!$
- 2) $(n + 1)! + 1!$
- 3) $(n - 1)! - 1!$
- 4) $(n + 1) - 1!$

Correct Option is: 1

Explanation: $1*1! = (2-1)*1! = 2*1! - 1! = 2! - 1!$

$2*2! = (3-1)*2! = 3*2! - 1*2! = 3! - 2!$

$3*3! = (4-1)*3! = 4*3! - 1*3! = 4! - 3!$

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$n*n! = ((n+1)-1)*n! = (n+1)*n! - n! = (n+1)! - n!$

Summing up all these terms, we get

$(n+1)! - 1!$

Hence, option 1 is the correct answer.

6. Shyam can do a job in 20 days, Ram in 30 days and Singhal in 60 days. If Shyam is helped by Ram and Singhal every 3rd day, how long will it take for them to complete the job?

- 1) 15 days
- 2) 20 days
- 3) 25 days
- 4) 30 days

Correct Option is: 1

Explanation: As Shyam is helped by Ram and Singha every third day, Shyam works for 3 days while Ram and Singhal works for 1 day in every 3 days.

Therefore, the amount of work done in 3 days by Shyam, Ram and Singhal is

$= 3/20 + 1/30 + 1/60 = 1/5$ of the job.

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