

Refer to the data below and answer the questions that follow.

Total 210 singers gave audition for a new project of a well-known musician. Each singer had to sing one type of song among Bhavgeet, Bhaktigeet and Lokgeet. Singers were classified in three groups, group A : [Age 15-30 including both], group B : [Age more than 30 years and upto 50 years], group C [Age more than 50 years].

The following facts were known about the auditions :

1. Out of the three groups, one group had equal number of singers, (say x) singing Bhavgeet and Bhaktigeet. One other group had equal number of singers (say y) singing Bhavgeet and Lokgeet and the third group had equal number of singers (say z) singing Bhaktigeet and Lokgeet. Further, the three numbers x, y and z are in AP (not necessarily in the same order).
2. In group A, the number of singers who sang Bhavgeet was half of the number of singers who sang Lokgeet.
3. In group C, 10 singers sang Bhavgeet. This was the least number of singers singing any type of songs in any group.
4. Total number of singers in group A was less than the total number of singers in group B, which in turn was less than the total number of singers in group C.
5. In group A, the number of singers, who sang Bhavgeet is less than the number of singers who sang any type of song in group B.

1) Which of the following could be the number of singers who sang Bhaktigeet in group B?

- ☐ 12
- ☐ 17
- ☐ 22
- ☐ 27

Video Explanation:

▼

Explanation:

▼

By using condition 3 and 1, in group C, the number of singers who sung Bhaktigeet and Lokgeet were equal. By using condition 2, in group A, the number of singers who sung Bhavgeet and Bhaktigeet were equal. Thus, in group B, the number of singers who sung Bhavgeet and Lokgeet were equal.

From conditions 3, 4 and 5, the number of Bhavgeet and Bhaktigeet singers in group A < the number of Bhavgeet and Lokgeet singers in group B < the number of Lokgeet and Bhaktigeet singers in group C

Assume that:

In group A; number of Bhavgeet singers = number of Bhaktigeet singers = p,

In group B; number of Bhaktigeet singers = m

By using conditions 1, 2, 3 and 4 the following table can be made:

| | A | B | C | Total |
|------------|----|-------------|--------------|-------------|
| Bhavgeet | p | p + d | 10 | 2p + d + 10 |
| Bhaktigeet | p | m | p + 2d | 2p + 2d + m |
| Lokgeet | 2p | p + d | p + 2d | 4p + 3d |
| Total | 4p | 2p + 2d + m | 2p + 4d + 10 | 210 |

$4p + 2p + 2d + m + 2p + 4d + 10 = 210$

$8p + 6d + m = 200$

By using conditions 3 and 5, it can be concluded that $10 < p < m$.

Also by using condition 4, it can be concluded that

$4p < 2p + 2d + m < 2p + 4d + 10,$

thus, $2p < 2d + m < 4d + 10$

$8p + 6d + m = 200$

Thus, m is definitely an even number. Option 2 and 4 are ruled out.

If m = 12; p has to be 11, since $m > p > 10$

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2. In group A, the number of singers who sang Bhavgeet was half of the number of singers who sang Lokgeet.
3. In group C, 10 singers sang Bhavgeet. This was the least number of singers singing any type of songs in any group.
4. Total number of singers in group A was less than the total number of singers in group B, which in turn was less than the total number of singers in group C.
5. In group A, the number of singers, who sang Bhavgeet is less than the number of singers who sang any type of song in group B.

$88 + 6d = 188$
 $6d = 100$ (invalid, since d has to be an integer.)

If $m = 22$; $8p + 6d = 178$
 $4p + 3d = 89$
Here we can get several values of p and d satisfying $2p < 2d + m < 4d + 10$.
If $p = 11$; $d = 15$, it will satisfy $2p < 2d + m < 4d + 10$.
If $p = 14$; $d = 11$, it will satisfy $2p < 2d + m < 4d + 10$.
If $p = 17$; $d = 7$, it will satisfy $2p < 2d + m < 4d + 10$.
If $p = 20$; $d = 3$, it will not satisfy $2p < 2d + m < 4d + 10$.

Hence, [3].


Correct Answer: 

Time taken by you: 0 secs

Avg Time taken by all students: 290 secs

Your Attempt: Skipped

% Students got it correct: 47 %

2) If 20 singers sang Bhaktigeet in group B, then how many values are possible for the total number of singers in group A? 

Enter your response (as an integer) using the virtual keyboard in the box provided

Video Explanation: 

Explanation: 

By using condition 3 and 1, in group C, the number of singers who sung Bhaktigeet and Lokgeet were equal. By using condition 2, in group A, the number of singers who sung Bhavgeet and Bhaktigeet were equal. Thus, in group B, the number of singers who sung Bhavgeet and Lokgeet were equal.

From conditions 3, 4 and 5, the number of Bhavgeet and Bhaktigeet singers in group A < the number of Bhavgeet and Lokgeet singers in group B < the number of Lokgeet and Bhaktigeet singers in group C

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- 2. In group A, the number of singers who sang Bhavgeet was half of the number of singers who sang Lokgeet.
- 3. In group C, 10 singers sang Bhavgeet. This was the least number of singers singing any type of songs in any group.
- 4. Total number of singers in group A was less than the total number of singers in group B, which in turn was less than the total number of singers in group C.
- 5. In group A, the number of singers, who sang Bhavgeet is less than the number of singers who sang any type of song in group B.

Assume that:

In group A; number of Bhavgeet singers = number of Bhaktigeet singers = p,

In group B; number of Bhaktigeet singers = m

By using conditions 1, 2, 3 and 4 the following table can be made:

| | A | B | C | Total |
|------------|----|-------------|--------------|-------------|
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| Bhaktigeet | p | m | p + 2d | 2p + 2d + m |
| Lokgeet | 2p | p + d | p + 2d | 4p + 3d |
| Total | 4p | 2p + 2d + m | 2p + 4d + 10 | 210 |

$4p + 2p + 2d + m + 2p + 4d + 10 = 210$

$8p + 6d + m = 200$

By using conditions 3 and 5, it can be concluded that $10 < p < m$.

Also by using condition 4, it can be concluded that

$4p < 2p + 2d + m < 2p + 4d + 10,$

thus, $2p < 2d + m < 4d + 10$

$8p + 6d + m = 200$

If $m = 20$; $8p + 6d = 180 \Rightarrow 4p + 3d = 90$

Note that p is definitely divisible by 3.

If $p = 12$; $d = 14$, it will satisfy $2p < 2d + m < 4d + 10$.

Total number of singers in group A = $4p = 12 \times 4 = 48$.

If $p = 15$; $d = 10$, it will satisfy $2p < 2d + m < 4d + 10$.

Total number of singers in group B = $4p = 12 \times 5 = 60$

If $p = 18$; $d = 6$, it will not satisfy $2p < 2d + m < 4d + 10$.

Further we increase the value of p, it will not satisfy $2p < 2d + m < 4d + 10$.

Two values are possible for the total number of singers in group A.

Therefore, the required answer is 2.

Correct Answer:

Time taken by you: 0 secs

Avg Time taken by all students: 26 secs

Your Attempt: Skipped

% Students got it correct: 13 %

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2. In group A, the number of singers who sang Bhavgeet was half of the number of singers who sang Lokgeet.
3. In group C, 10 singers sang Bhavgeet. This was the least number of singers singing any type of songs in any group.
4. Total number of singers in group A was less than the total number of singers in group B, which in turn was less than the total number of singers in group C.
5. In group A, the number of singers, who sang Bhavgeet is less than the number of singers who sang any type of song in group B.

3) If the number of singers who sang Bhaktigeet in group B is an arithmetic mean of those who sang Lokgeet in group A and those who sang Bhavgeet in group C, then how many singers sang Bhaktigeet?

Enter your response (as an integer) using the virtual keyboard in the box provided

50

Video Explanation: ▼

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By using condition 3 and 1, in group C, the number of singers who sung Bhaktigeet and Lokgeet were equal. By using condition 2, in group A, the number of singers who sung Bhavgeet and Bhaktigeet were equal. Thus, in group B, the number of singers who sung Bhavgeet and Lokgeet were equal.

From conditions 3, 4 and 5, the number of Bhavgeet and Bhaktigeet singers in group A < the number of Bhavgeet and Lokgeet singers in group B < the number of Lokgeet and Bhaktigeet singers in group C

Assume that:

In group A; number of Bhavgeet singers = number of Bhaktigeet singers = p,

In group B; number of Bhaktigeet singers = m

By using conditions 1, 2, 3 and 4 the following table can be made:

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| Lokgeet | 2p | p + d | p + 2d | 4p + 3d |
| Total | 4p | 2p + 2d + m | 2p + 4d + 10 | 210 |

$4p + 2p + 2d + m + 2p + 4d + 10 = 210$

$8p + 6d + m = 200$

By using conditions 3 and 5, it can be concluded that $10 < p < m$.

Also by using condition 4, it can be concluded that

$4p < 2p + 2d + m < 2p + 4d + 10,$

thus, $2p < 2d + m < 4d + 10$

Given, $m = \frac{2p + 10}{2} = p + 5$

Now the table will be as follows:

| | A | B | C | Total |
|------------|----|-------------|--------------|-------------|
| Bhavgeet | p | p + d | 10 | 2p + d + 10 |
| Bhaktigeet | p | p + 5 | p + 2d | 3p + 2d + 5 |
| Lokgeet | 2p | p + d | p + 2d | 4p + 3d |
| Total | 4p | 3p + 2d + 5 | 2p + 4d + 10 | 210 |

$4p + 3p + 2d + 5 + 2p + 4d + 10 = 210$

$9p + 6d = 195$

Thus, $3p + 2d = 65$

Total number of singers, who sang Bhaktigeet = $3p + 2d + 5 = 65 + 5 = 70$

Therefore, the required answer is 70.

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Avg Time taken by all students: 21 secs

Your Attempt: Wrong

% Students got it correct: 15 %

4) If 20 singers sang Bhaktigeet in group B, then which of the following statement is definitely not true? —

- ☐ The total number of singers in group B was same as the total number of singers singing Bhaktigeet.
- ☐ The number of singers singing Bhaktigeet is the arithmetic mean of those singing Bhavgeet and Lokgeet.
- ☐ Maximum number of singers sang Lokgeet.
- ☒ Number of singers, singing Bhaktigeet in group A, group B and group C were in Arithmetic Progression. ✓

Video Explanation: ▼

Explanation: ▼

By using condition 3 and 1, in group C, the number of singers who sung Bhaktigeet and Lokgeet were equal. By using condition 2, in group A, the number of singers who sung Bhavgeet and Bhaktigeet were equal. Thus, in group B, the number of singers who sung Bhavgeet and Lokgeet were equal.

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Assume that:

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By using conditions 1, 2, 3 and 4 the following table can be made:

| | A | B | C | Total |
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| Lokgeet | 2p | p + d | p + 2d | 4p + 3d |
| Total | 4p | 2p + 2d + m | 2p + 4d + 10 | 210 |

$4p + 2p + 2d + m + 2p + 4d + 10 = 210$

$8p + 6d + m = 200$

By using conditions 3 and 5, it can be concluded that $10 < p < m$.

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thus, 2p < 2d + m < 4d + 10

8p + 6d + m = 200

If m = 20; 8p + 6d = 180 ⇒ 4p + 3d = 90

Note that p is definitely divisible by 3.

If p = 12; d = 14, it will satisfy 2p < 2d + m < 4d + 10.

The table will look as follows:

| | A | B | C | Total |
|------------|----|----|----|-------|
| Bhavgeet | 12 | 26 | 10 | 48 |
| Bhaktigeet | 12 | 20 | 40 | 72 |
| Lokgeet | 24 | 26 | 40 | 90 |
| Total | 48 | 72 | 90 | 210 |

If p = 15; d = 10, it will satisfy 2p < 2d + m < 4d + 10.

The table will look as follows:

| | A | B | C | Total |
|------------|----|----|----|-------|
| Bhavgeet | 15 | 25 | 10 | 50 |
| Bhaktigeet | 15 | 20 | 35 | 70 |
| Lokgeet | 30 | 25 | 35 | 90 |
| Total | 60 | 70 | 80 | 210 |

If p = 18; d = 6, it will not satisfy 2p < 2d + m < 4d + 10.
Further we increase the value of p, it will not satisfy 2p < 2d + m < 4d + 10.

Option 1 – definitely true.

Option 2 – may be true.

Option 3 – definitely true.

Option 4 – definitely not true.

Hence, [4].

Correct Answer: ▼

Time taken by you: 133 secs

Avg Time taken by all students: 65 secs

Your Attempt: Correct

% Students got it correct: 39 %

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Loading...

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Refer to the data below and answer the questions that follow.

The table provides the percentage of total revenues accounted for by the top 2 firms, top 4 firms and the top 10 firms in various industries. However, one of the data points in one of the industries is incorrect which is then corrected by adding or subtracting 4 percentage points from the incorrect data.

| Industry | Top 2 Firms (% of total industry) | Top 4 Firms (% of total industry) | Top 10 Firms (% of total industry) |
|---------------|--------------------------------------|--------------------------------------|---------------------------------------|
| Steel | 60 | 75 | 100 |
| Oil & Gas | 50 | 80 | 100 |
| Shipping | 40 | 50 | 74 |
| Leather | 4 | 6 | 10 |
| Textiles | 8 | 18 | 30 |
| Chemicals | 3 | 5 | 7 |
| Elevators | 100 | 100 | 100 |
| Refrigerators | 25 | 40 | 60 |

1) Which is the incorrect data point? —

- ☐ Top 4 firms for Oil & Gas.
- ☐ Top 4 firms for Leather.
- ☐ Top 4 firms for Textiles.
- ☐ Top 4 firms for Refrigerators.

Video Explanation: ▼

Explanation: ▼

The average size of the 3rd and the 4th largest firms must be less than or equal to the average size of the first two firms.

Based on an inspection, the jump in textiles appears to be very large.

The average for the 3rd and the 4th firms is $\frac{(18-8)}{2} = 5$

The average for the 3rd and the 4th firms is = 5.

However, the first two firms' average is only = 4. Hence, it is incorrect and needs to be corrected by subtracting 4 percentage points.

Hence, [3].

Alternatively,

If top 2 firms form x% of the total industry, top 4 firms form less than (x + x)% of the total i.e., less than 2x%.

In case of textiles industry, top 4 firms form more than $2 \times 8 = 16\%$.

Data point for textiles for top 4 firms is wrong.

The correct data point = $18 - 4 = 14\%$.

Correct Answer: ▼

Time taken by you: **443 secs**

Avg Time taken by all students: **233 secs**

Your Attempt: **Skipped**

% Students got it correct: **68 %**

Refer to the data below and answer the questions that follow.

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| Chemicals | 3 | 5 | 7 |
| Elevators | 100 | 100 | 100 |
| Refrigerators | 25 | 40 | 60 |

2) If the size of the largest steel firm is Rs. 5000 cr, _ which of the following cannot be the total size of the steel industry?

- ☐ Rs. 10000 cr
- ☐ Rs. 12500 cr
- ☐ Rs. 15000 cr
- ☒ Rs. 17000 cr ✓

Video Explanation: ▼

Explanation: ▼

The solution lies in estimating the size of the largest firm as a proportion of the total industry.

Since the size of 3rd largest firm \geq average size of the 3rd and 4th firms,

the size of 3rd largest firm $\geq \frac{(75-60)}{2}$ or 7.5%

Hence, size of 2nd largest firm $\geq 7.5\%$ or

the size of largest firm $\leq 60 - 7.5 = 52.5\%$

Also, largest firm \geq average of the top 2 firms

Hence, the largest firm $\geq \frac{60}{2}$ or 30%.

Hence, the size of the largest steel firm is between $\frac{5000}{0.525} \approx 9500$ and $\frac{5000}{0.3} \approx 16667$.

Hence, [4].

Alternatively,

Let the size of the largest two firms be x and that of the steel industry be y.

Then, $x < 5000 \times 2$ and $x = \frac{60y}{100}$

$\therefore y < \frac{5000 \times 2 \times 100}{60}$

$\therefore y < 16666.67$

Correct Answer: ▼

Time taken by you: **36 secs**

Avg Time taken by all students: **151 secs**

Your Attempt: **Correct**

% Students got it correct: **71 %**

3) How many industries definitely have at least 20 _ firms in all?

- ☐ 4
- ☐ 3

Refer to the data below and answer the questions that follow.

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Video Explanation: ▼

Explanation: ▼

We have to check for following industries : Shipping, Leather, Textiles, Chemicals and Refrigerators.

Shipping : Top two firms account for 40%, it can be said that each firm accounts for 20%. Next two firms account for 10%, it can be said that each firm accounts for 5%. If each of the firms ranked 5th to 10th accounts for equal share of revenue, each firm will have $\frac{24}{6} = 4\%$ revenue share. Therefore, the 10th ranked firm can account for at most 4%.

Now for the remaining 26%, each firm can account for at most 4%, the minimum number of firms will be 7. Therefore, Shipping industry cannot definitely have at least 20 firms.

Leather : Top two firms account for 4%, it can be said that each firm accounts for 2%. Next two firms account for 2%, it can be said that each firm account for 1%. If each of the firms ranked 5th to 10th accounts for equal share of revenue, each firm will have $\frac{4}{6} = 0.67\%$ revenue share. Therefore, the 10th ranked firm can account for at most 0.67%.

Now for the remaining 90%, each firm can account for at most 0.67%, Leather Industry definitely has more than 20 firms in all.

Textiles : Top two firms account for 8%, it can be said that each firm account for 4%. Next two firms account for 6% (Note that the value 18 given in the table for the 'Top 4 terms' was incorrect. The correct value = 14%), it can be said that each firm account for 3%. If each of the firms ranked 5th to 10th accounts for equal share of revenue, each firm will have $\frac{16}{6} = 2.67\%$ revenue share. Therefore, the 10th ranked firm can account for at most 2.67%.

Now for the remaining 70%, each firm can account for maximum 2.67%, it definitely has more than 20 firms in all.

Chemicals : Top two firms account for 3%, it can be said that each firm account for 1.5%. Next two firms account for 2%, it can be said that each firm account for 1%. If each of the firms ranked 5th to 10th accounts for equal share of revenue, each firm will have $\frac{2}{6} = 0.33\%$ revenue share. Therefore, the 10th ranked firm can account for at most 0.33%.

Now for the remaining 93%, each firm can account for maximum 0.33%, Chemical Industry also definitely has more than 20 firms in all.

Refrigerators : Top two firms account for 25%, it can be said that each firm account for 12.5%. Next two firms account for 15%, if each of the firms ranked 5th to 10th accounts for equal share of revenue, each firm will have $\frac{20}{6} = 3.33\%$ revenue share. Therefore, the 10th ranked firm can account for at most 3.33%.

Now for the remaining 40%, each firm can account for maximum 03.33%, it definitely has more than 20 firms in all.

Hence, [1].

Refer to the data below and answer the questions that follow.

The table provides the percentage of total revenues accounted for by the top 2 firms, top 4 firms and the top 10 firms in various industries. However, one of the data points in one of the industries is incorrect which is then corrected by adding or subtracting 4 percentage points from the incorrect data.

| Industry | Top 2 Firms (% of total industry) | Top 4 Firms (% of total industry) | Top 10 Firms (% of total industry) |
|---------------|--------------------------------------|--------------------------------------|---------------------------------------|
| Steel | 60 | 75 | 100 |
| Oil & Gas | 50 | 80 | 100 |
| Shipping | 40 | 50 | 74 |
| Leather | 4 | 6 | 10 |
| Textiles | 8 | 18 | 30 |
| Chemicals | 3 | 5 | 7 |
| Elevators | 100 | 100 | 100 |
| Refrigerators | 25 | 40 | 60 |

Time taken by you: **9 secs**

Avg Time taken by all students: **56 secs**

Your Attempt: **Skipped**

% Students got it correct: **34 %**

4) If the percentage share of each firm in all the industries is an integer value, then which of the following industries can have the lowest number of firms? (Assume that none of the remaining firms has a share equal to any of the top 4 firms)

- ☐ Steel
- ☐ Oil & Gas
- ☐ Shipping
- ☐ Refrigerator

Video Explanation: ▼

Refer to the data below and answer the questions that follow.

The table provides the percentage of total revenues accounted for by the top 2 firms, top 4 firms and the top 10 firms in various industries. However, one of the data points in one of the industries is incorrect which is then corrected by adding or subtracting 4 percentage points from the incorrect data.

| Industry | Top 2 Firms (% of total industry) | Top 4 Firms (% of total industry) | Top 10 Firms (% of total industry) |
|---------------|--------------------------------------|--------------------------------------|---------------------------------------|
| Steel | 60 | 75 | 100 |
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| Leather | 4 | 6 | 10 |
| Textiles | 8 | 18 | 30 |
| Chemicals | 3 | 5 | 7 |
| Elevators | 100 | 100 | 100 |
| Refrigerators | 25 | 40 | 60 |

In order to minimize the number of firms in an industry, we must maximize the percentage share of each of the firms in that industry.

For Steel, the percentage of total revenues accounted for by the top 2 firms = 60%

The maximum percentage shares in total revenue that these firms can attain so that the remaining firms too have maximum shares (i.e., minimum number of firms) would be 30 and 30 respectively.

Similarly, for the next 2 firms the percentage share must be 8 and 7 (as the percentage shares are integers). Thus, for all the other firms the sum of the percentage shares must be equal to 25% such that none of the firm has a share more than 6%. Thus, the minimum number of remaining firms = 5 with 4 firms having a share of 6% and 1 firm having a share of 1%.

∴ The total number of firms in Steel industry = 4 + 5 = 9

Similarly the percentage shares of all the firms in the given industries can be shown as,

| Industry | Top 2 firms | Top 4 firms | Remaining | Total number of firms |
|--------------|-------------|-------------|-------------------------------------|-----------------------|
| Steel | 30%, 30% | 8%, 7% | 6%, 6%, 6%, 6%, 1% | 9 |
| Oil and Gas | 25%, 25% | 15%, 15% | 14%, 6% | 6 |
| Shipping | 20%, 20% | 5%, 5% | 12 firms with 4%, 1 firm with 2% | 17 |
| Refrigerator | 13%, 12% | 8%, 7% | 10 firms with 6% | 14 |

Hence, [2].

Correct Answer: ▼

Time taken by you: 0 secs

Avg Time taken by all students: 114 secs

Your Attempt: Skipped

% Students got it correct: 73 %

Refer to the data below and answer the questions that follow.

Loading...

The table provides the percentage of total revenues accounted for by the top 2 firms, top 4 firms and the top 10 firms in various industries. However, one of the data points in one of the industries is incorrect which is then corrected by adding or subtracting 4 percentage points from the incorrect data.

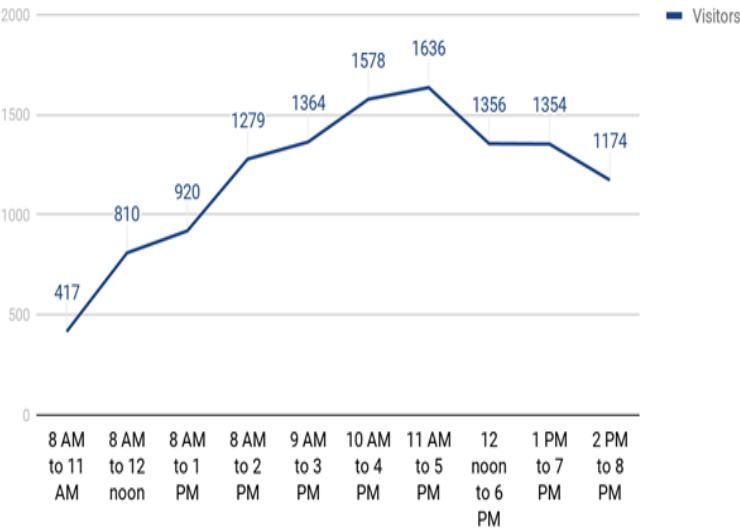
| Industry | Top 2 Firms (% of total industry) | Top 4 Firms (% of total industry) | Top 10 Firms (% of total industry) |
|---------------|--------------------------------------|--------------------------------------|---------------------------------------|
| Steel | 60 | 75 | 100 |
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| Shipping | 40 | 50 | 74 |
| Leather | 4 | 6 | 10 |
| Textiles | 8 | 18 | 30 |
| Chemicals | 3 | 5 | 7 |
| Elevators | 100 | 100 | 100 |
| Refrigerators | 25 | 40 | 60 |

Refer to the data below and answer the questions that follow.

Camel Festival is celebrated on every second weekend of January every year in Bikaner, Rajasthan. The show opens at 8 AM and is up-to 8 PM on both Saturday and Sunday. The visitors can enter the site every hour starting 8 AM up-to 7 PM and stay for one hour each. Once a visitor completes one hour in the festival, he/she leaves the Festival and does not return to the Festival on the same day.

The following graph shows the number of visitors present in the festival on Sunday between different time slots.

Number of visitors



For example, the number of visitors from 8 AM to 11 AM = 417 i.e. the number of visitors from 8 AM to 9 AM + the number of visitors from 9 AM to 10 AM + the number of visitors from 10 AM to 11 AM = 417.

1) If we divide the time from 8 AM to 8 PM into 12 slots of one hour each (8 AM to 9 AM, 9 AM to 10 AM, 10 AM to 11 AM etc), for how many of these 12 slots, can we determine the number of visitors present in the festival?

- ☐ 4
- ☐ 5
- ☐ 6
- ☐ More than 6

Video Explanation: ▼

Explanation: ▼

We have the following:

| Time slot | visitors |
|-----------------|----------|
| 8 AM to 11 AM | 417 |
| 8 AM to 12 noon | 810 |
| 8 AM to 1 PM | 920 |
| 8 AM to 2 PM | 1279 |
| 9 AM to 3 PM | 1364 |
| 10 AM to 4 PM | 1578 |
| 11 AM to 5 PM | 1636 |
| 12 noon to 6 PM | 1356 |
| 1 PM to 7 PM | 1354 |
| 2 PM to 8 PM | 1174 |

The number of visitors present between 11AM and 12 noon
= The number of visitors present between 8 AM and 12 noon
- The number of visitors present between 8AM and 11AM =
 $810 - 417 = 393$

The number of visitors present between 12 noon and 1PM =
The number of visitors present between 8AM and 1PM- The
number of visitors present between 8AM and 12 noon = $920 - 810 = 110$

The number of visitors present between 1PM and 2PM = The
number of visitors present between 8AM and 2PM. The
number of visitors present between 8AM and 1PM = $1279 - 920 = 359$

Suppose the number of visitors present between 8AM and
9AM = a and the number of visitors present between 9AM
and 10AM = b. Therefore, the number of visitors present
between 10AM and 11AM = $417 - a - b$.

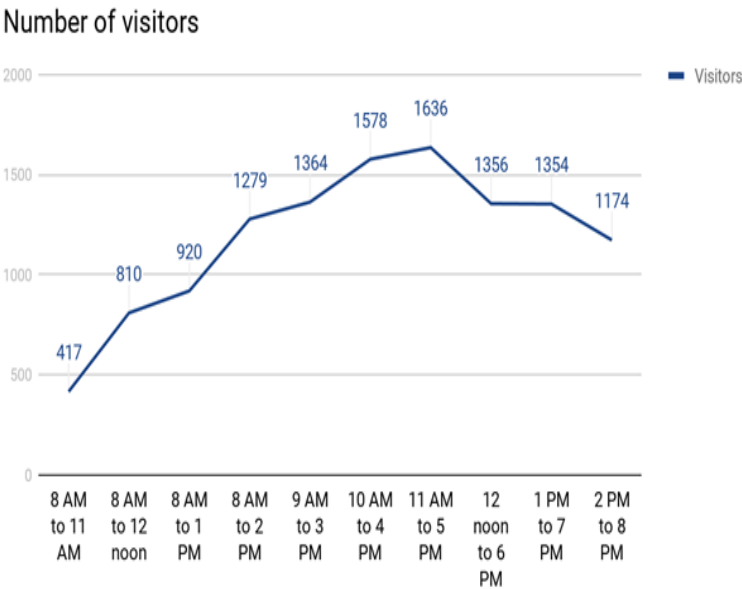
So far we have the following:

| Time slot | Number | Change Section here |
|------------------|---------------|---------------------|
| 8 AM to 9 AM | a | |
| 9 AM to 10 AM | b | |
| 10 AM to 11 AM | $417 - a - b$ | |
| 11 AM to 12 noon | 393 | |
| 12 noon to 1 PM | 110 | |
| 1 PM to 2 PM | 359 | |

Refer to the data below and answer the questions that follow.

Camel Festival is celebrated on every second weekend of January every year in Bikaner, Rajasthan. The show opens at 8 AM and is up-to 8 PM on both Saturday and Sunday. The visitors can enter the site every hour starting 8 AM up-to 7 PM and stay for one hour each. Once a visitor completes one hour in the festival, he/she leaves the Festival and does not return to the Festival on the same day.

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For example, the number of visitors from 8 AM to 11 AM = 417 i.e. the number of visitors from 8 AM to 9 AM + the number of visitors from 9 AM to 10 AM + the number of visitors from 10 AM to 11 AM = 417.

The number of visitors present between 2PM and 3PM = The number of visitors present between 9AM and 3PM – The number of visitors present between 9AM and 2PM = $1364 - (b + 417 - a - b + 393 + 110 + 359) = a + 85$

The number of visitors present between 3PM and 4PM = The number of visitors present between 10AM and 4PM – The number of visitors present between 10AM and 3PM = $1578 - (417 - a - b + 393 + 110 + 359 + a + 85) = b + 214$

The number of visitors present between 4PM and 5PM = The number of visitors present between 11AM and 5PM – The number of visitors present between 11AM and 4PM = $1636 - (393 + 110 + 359 + a + 85 + b + 214) = 475 - a - b$

The number of visitors present between 5PM and 6PM = The number of visitors present between 12 noon and 6PM – The number of visitors present between 12 noon and 5PM = $1356 - (110 + 359 + a + 85 + b + 214 + 475 - a - b) = 113$

The number of visitors present between 6PM and 7PM = The number of visitors present between 1PM and 7PM – The number of visitors present between 1PM and 6PM = $1354 - (359 + a + 85 + b + 214 + 475 - a - b + 113) = 108$

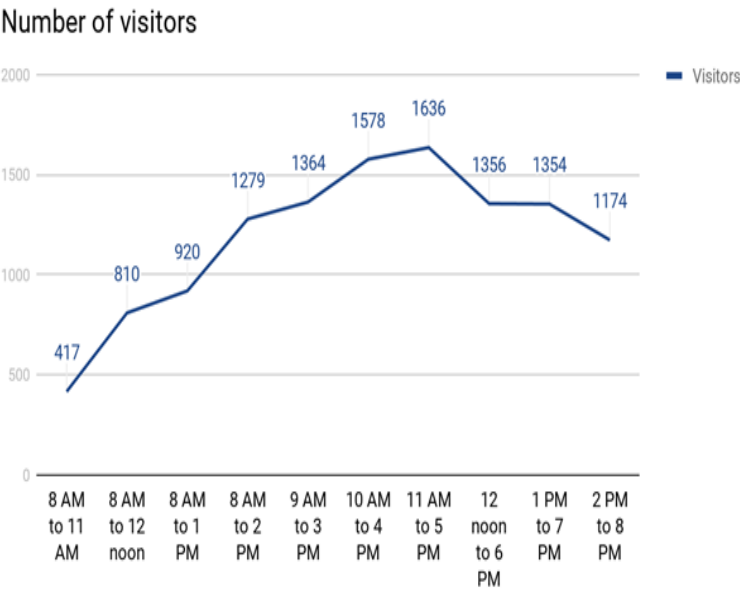
The number of visitors present between 7PM and 8PM = The number of visitors present between 2PM and 8PM – The number of visitors present between 2PM and 7PM = $1174 - (a + 85 + b + 214 + 475 - a - b + 113 + 108) = 179$

Now, we have the following:

Refer to the data below and answer the questions that follow.

Camel Festival is celebrated on every second weekend of January every year in Bikaner, Rajasthan. The show opens at 8 AM and is up-to 8 PM on both Saturday and Sunday. The visitors can enter the site every hour starting 8 AM up-to 7 PM and stay for one hour each. Once a visitor completes one hour in the festival, he/she leaves the Festival and does not return to the Festival on the same day.

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For example, the number of visitors from 8 AM to 11 AM = 417 i.e. the number of visitors from 8 AM to 9 AM + the number of visitors from 9 AM to 10 AM + the number of visitors from 10 AM to 11 AM = 417.

| Time slot | Num | Change Section here |
|------------------|-------------|---------------------|
| 8 AM to 9 AM | a | |
| 9 AM to 10 AM | b | |
| 10 AM to 11 AM | 417 – a – b | |
| 11 AM to 12 noon | 393 | |
| 12 noon to 1 PM | 110 | |
| 1 PM to 2 PM | 359 | |
| 2 PM to 3 PM | a + 85 | |
| 3 PM to 4 PM | b + 214 | |
| 4 PM to 5 PM | 475 – a – b | |
| 5 PM to 6 PM | 113 | |
| 6 PM to 7 PM | 108 | |
| 7 PM to 8 PM | 179 | |

We can determine the number of visitors present in the following time slots: 11AM to 12 noon, 12 noon to 1PM, 1PM to 2PM, 5PM to 6PM, 6PM to 7PM and 7PM to 8PM (total 6). Hence, [3].

Correct Answer:

Time taken by you: 0 secs

Avg Time taken by all students: 245 secs

Your Attempt: Skipped

% Students got it correct: 42 %

2) What is the sum of the number of visitors who entered the festival at 12 noon and those who entered at 1 PM?

- 469
- 393
- 503
- Cannot be determined

Video Explanation:

Explanation:

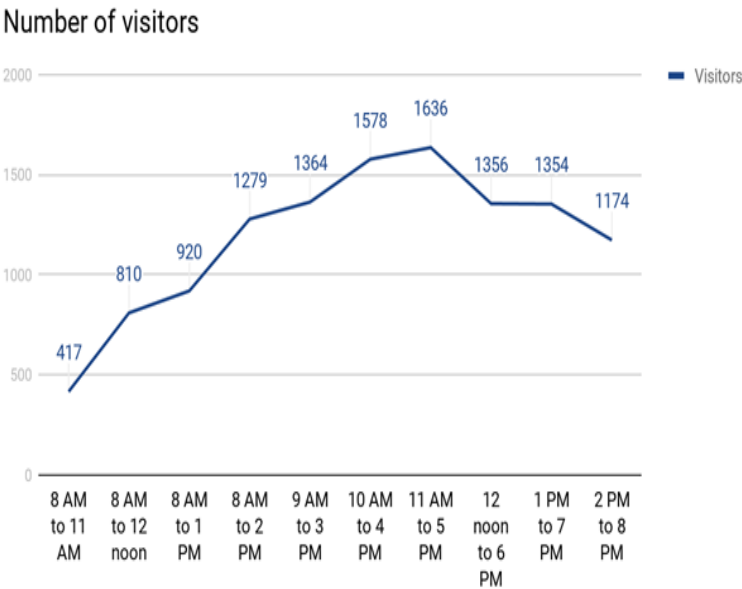
We have the following:

| Time slot | visitors |
|-----------------|----------|
| 8 AM to 11 AM | 417 |
| 8 AM to 12 noon | 810 |
| 8 AM to 1 PM | 920 |
| 8 AM to 2 PM | 1279 |
| 9 AM to 3 PM | 1364 |
| 10 AM to 4 PM | 1578 |
| 11 AM to 5 PM | 1636 |
| 12 noon to 6 PM | 1356 |
| 1 PM to 7 PM | 1354 |
| 2 PM to 8 PM | 1174 |

Refer to the data below and answer the questions that follow.

Camel Festival is celebrated on every second weekend of January every year in Bikaner, Rajasthan. The show opens at 8 AM and is up-to 8 PM on both Saturday and Sunday. The visitors can enter the site every hour starting 8 AM up-to 7 PM and stay for one hour each. Once a visitor completes one hour in the festival, he/she leaves the Festival and does not return to the Festival on the same day.

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The number of visitors present between 11AM and 12 noon = The number of visitors present between 8 AM and 12 noon - The number of visitors present between 8AM and 11AM = $810 - 417 = 393$

The number of visitors present between 12 noon and 1PM = The number of visitors present between 8AM and 1PM- The number of visitors present between 8AM and 12 noon = $920 - 810 = 110$

The number of visitors present between 1PM and 2PM = The number of visitors present between 8AM and 2PM- The number of visitors present between 8AM and 1PM = $1279 - 920 = 359$

Suppose the number of visitors present between 8AM and 9AM = a and the number of visitors present between 9AM and 10AM = b. Therefore, the number of visitors present between 10AM and 11AM = $417 - a - b$.

So far we have the following:

| Time slot | Number of visitors present |
|------------------|----------------------------|
| 8 AM to 9 AM | a |
| 9 AM to 10 AM | b |
| 10 AM to 11 AM | $417 - a - b$ |
| 11 AM to 12 noon | 393 |
| 12 noon to 1 PM | 110 |
| 1 PM to 2 PM | 359 |

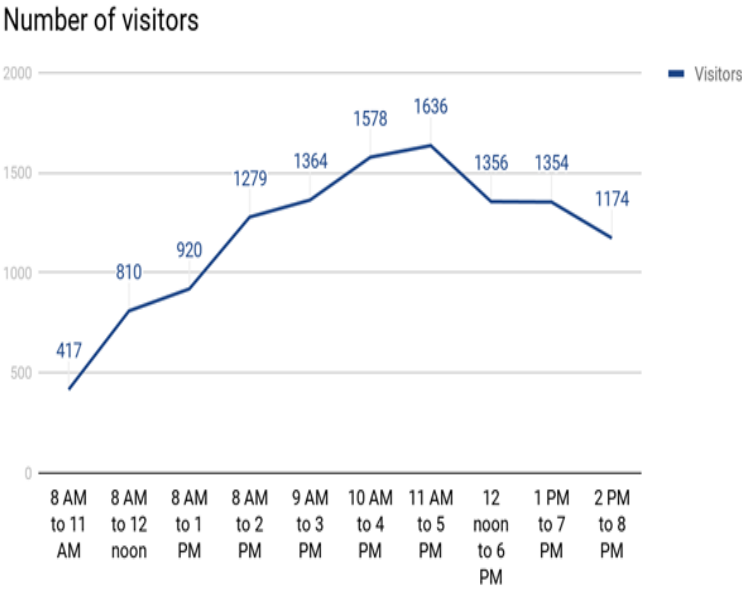
The number of visitors present between 2PM and 3PM = The number of visitors present between 9AM and 3PM – The number of visitors present between 9AM and 2PM = $1364 - (b + 417 - a - b + 393 + 110 + 359) = a + 85$

The number of visitors present between 3PM and 4PM = The number of visitors present between 10AM and 4PM – The number of visitors present between 10AM and 3PM = $1578 - (417 - a - b + 393 + 110 + 359 + a + 85) = b + 214$

Refer to the data below and answer the questions that follow.

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For example, the number of visitors from 8 AM to 11 AM = 417 i.e. the number of visitors from 8 AM to 9 AM + the number of visitors from 9 AM to 10 AM + the number of visitors from 10 AM to 11 AM = 417.

The number of visitors present between 5PM and 6PM = The number of visitors present between 12 noon and 6PM – The number of visitors present between 12 noon and 5PM = 1356 – (110 + 359 + a + 85+ b + 214 + 475 – a – b) = 113

The number of visitors present between 6PM and 7PM = The number of visitors present between 1PM and 7PM – The number of visitors present between 1PM and 6PM = 1354 – (359 + a + 85 + b + 214 + 475 – a – b + 113) = 108

The number of visitors present between 7PM and 8PM = The number of visitors present between 2PM and 8PM – The number of visitors present between 2PM and 7PM = 1174 – (a + 85 + b + 214 + 475 – a –b + 113 + 108) = 179

Now, we have the following:

| Time slot | Number of visitors present |
|------------------|----------------------------|
| 8 AM to 9 AM | a |
| 9 AM to 10 AM | b |
| 10 AM to 11 AM | 417 – a – b |
| 11 AM to 12 noon | 393 |
| 12 noon to 1 PM | 110 |
| 1 PM to 2 PM | 359 |
| 2 PM to 3 PM | a + 85 |
| 3 PM to 4 PM | b + 214 |
| 4 PM to 5 PM | 475 – a – b |
| 5 PM to 6 PM | 113 |
| 6 PM to 7 PM | 108 |
| 7 PM to 8 PM | 179 |

The required answer = 110 + 359 = 469. Hence, [1].

Correct Answer: ▼

Time taken by you: 0 secs

Avg Time taken by all students: 142 secs

Your Attempt: Skipped

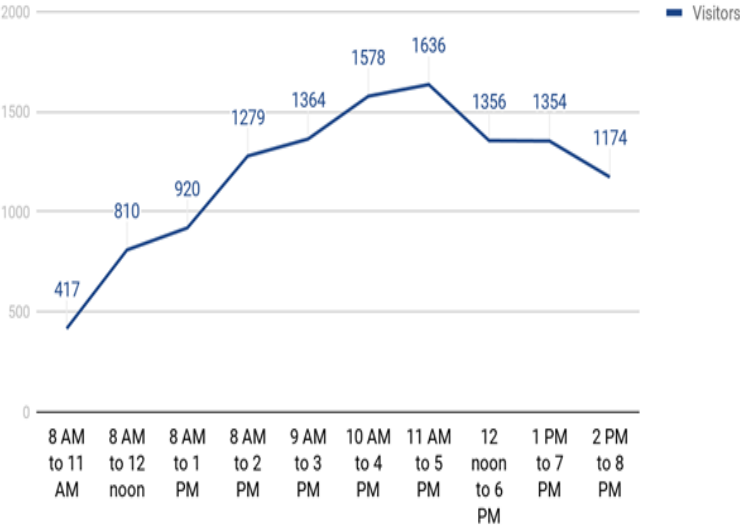
% Students got it correct: 75 %

Refer to the data below and answer the questions that follow.

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The following graph shows the number of visitors present in the festival on Sunday between different time slots.

Number of visitors



For example, the number of visitors from 8 AM to 11 AM = 417 i.e. the number of visitors from 8 AM to 9 AM + the number of visitors from 9 AM to 10 AM + the number of visitors from 10 AM to 11 AM = 417.

How many visitors entered the festival at 2 PM?

Enter your response (as an integer) using the virtual keyboard in the box provided.

Video Explanation:

Explanation:

We have the following:

| Time slot | visitors |
|-----------------|----------|
| 8 AM to 11 AM | 417 |
| 8 AM to 12 noon | 810 |
| 8 AM to 1 PM | 920 |
| 8 AM to 2 PM | 1279 |
| 9 AM to 3 PM | 1364 |
| 10 AM to 4 PM | 1578 |
| 11 AM to 5 PM | 1636 |
| 12 noon to 6 PM | 1356 |
| 1 PM to 7 PM | 1354 |
| 2 PM to 8 PM | 1174 |

The number of visitors present between 11AM and 12 noon = The number of visitors present between 8 AM and 12 noon - The number of visitors present between 8AM and 11AM = 810 – 417 = 393

The number of visitors present between 12 noon and 1PM = The number of visitors present between 8AM and 1PM- The number of visitors present between 8AM and 12 noon = 920 – 810 = 110

The number of visitors present between 1PM and 2PM = The number of visitors present between 8AM and 2PM- The number of visitors present between 8AM and 1PM = 1279 – 920 = 359

Suppose the number of visitors present between 8AM and 9AM = a and the number of visitors present between 9AM and 10AM = b. Therefore, the number of visitors present between 10AM and 11AM = 417 – a – b.

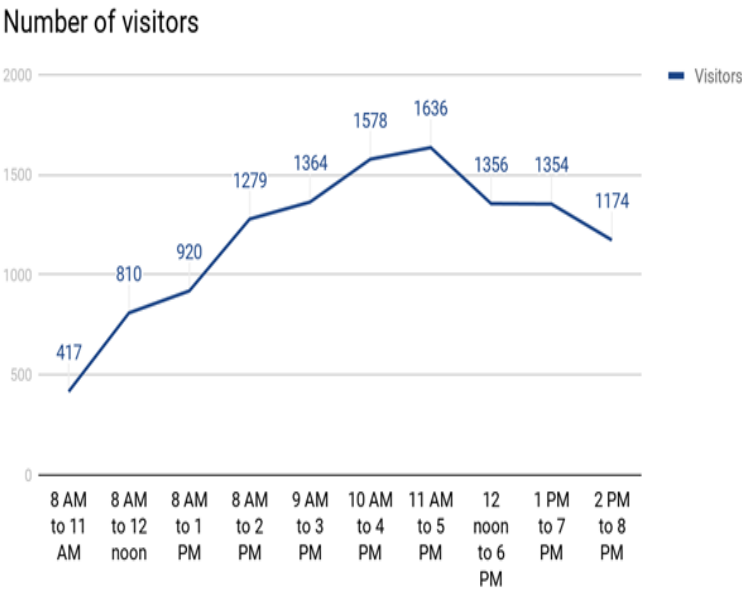
So far we have the following:

| Time slot | Number | Change Section here |
|------------------|-------------|---------------------|
| 8 AM to 9 AM | a | |
| 9 AM to 10 AM | b | |
| 10 AM to 11 AM | 417 – a – b | |
| 11 AM to 12 noon | 393 | |
| 12 noon to 1 PM | 110 | |
| 1 PM to 2 PM | 359 | |

Refer to the data below and answer the questions that follow.

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The number of visitors present between 2PM and 3PM = The number of visitors present between 9AM and 3PM – The number of visitors present between 9AM and 2PM = 1364 – (b + 417 – a – b + 393 + 110 + 359) = a + 85

The number of visitors present between 3PM and 4PM = The number of visitors present between 10AM and 4PM – The number of visitors present between 10AM and 3PM = 1578 – (417 – a – b + 393 + 110 + 359 + a + 85) = b + 214

The number of visitors present between 4PM and 5PM = The number of visitors present between 11AM and 5PM – The number of visitors present between 11AM and 4PM = 1636 – (393 + 110 + 359 + a + 85 + b + 214) = 475 – a – b

The number of visitors present between 5PM and 6PM = The number of visitors present between 12 noon and 6PM – The number of visitors present between 12 noon and 5PM = 1356 – (110 + 359 + a + 85+ b + 214 + 475 – a – b) = 113

The number of visitors present between 6PM and 7PM = The number of visitors present between 1PM and 7PM – The number of visitors present between 1PM and 6PM = 1354 – (359 + a + 85 + b + 214 + 475 – a – b + 113) = 108

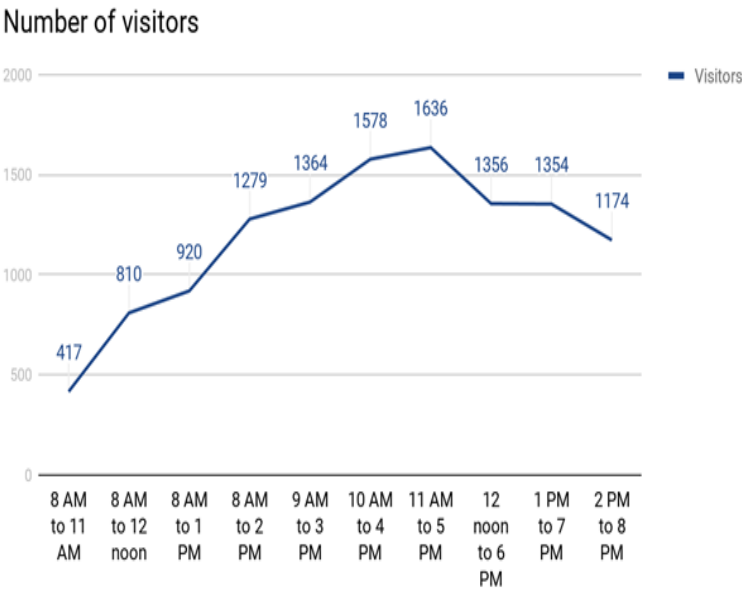
The number of visitors present between 7PM and 8PM = The number of visitors present between 2PM and 8PM – The number of visitors present between 2PM and 7PM = 1174 – (a + 85 + b + 214 + 475 – a –b + 113 + 108) = 179

Now, we have the following:

Refer to the data below and answer the questions that follow.

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|------------------|-------------|---------------------|
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| 10 AM to 11 AM | 417 – a – b | |
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| 12 noon to 1 PM | 110 | |
| 1 PM to 2 PM | 359 | |
| 2 PM to 3 PM | a + 85 | |
| 3 PM to 4 PM | b + 214 | |
| 4 PM to 5 PM | 475 – a – b | |
| 5 PM to 6 PM | 113 | |
| 6 PM to 7 PM | 108 | |
| 7 PM to 8 PM | 179 | |

The required answer = 168 + 85 = 253. Therefore, the required answer is 253.

Correct Answer:

Time taken by you: 0 secs

Avg Time taken by all students: 93 secs

Your Attempt: Skipped

% Students got it correct: 61 %

4) Additional information:

- Total number of visitors who entered the festival at 8 AM was 168.
- Total number of visitors who entered the festival at 3 PM was 345.

How many visitors left the festival at 11 AM?

Enter your response (as an integer) using the virtual keyboard in the box provided.

Video Explanation:

Explanation:

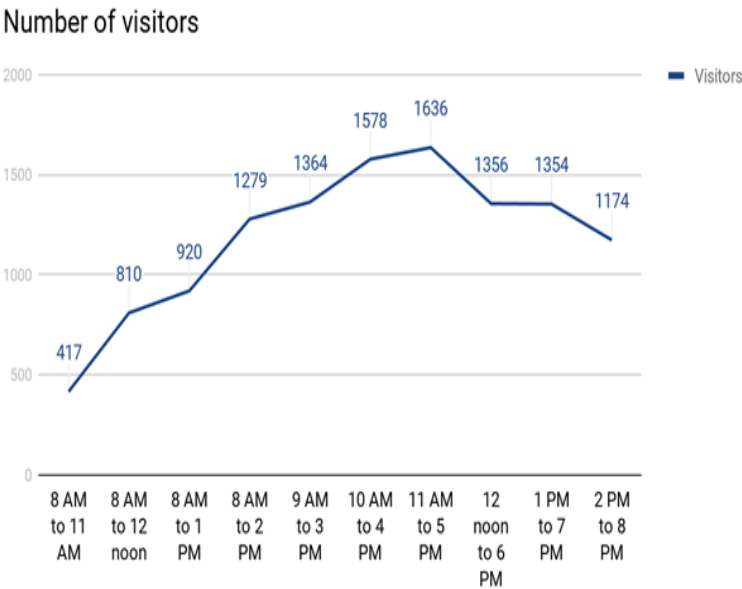
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| 8 AM to 2 PM | 1279 |
| 9 AM to 3 PM | 1364 |
| 10 AM to 4 PM | 1578 |
| 11 AM to 5 PM | 1636 |
| 12 noon to 6 PM | 1356 |
| 1 PM to 7 PM | 1354 |
| 2 PM to 8 PM | 1174 |

Refer to the data below and answer the questions that follow.

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The number of visitors present between 12 noon and 1PM = The number of visitors present between 8AM and 1PM - The number of visitors present between 8AM and 12 noon = $920 - 810 = 110$

The number of visitors present between 1PM and 2PM = The number of visitors present between 8AM and 2PM- The number of visitors present between 8AM and 1PM = $1279 - 920 = 359$

Suppose the number of visitors present between 8AM and 9AM = a and the number of visitors present between 9AM and 10AM = b. Therefore, the number of visitors present between 10AM and 11AM = $417 - a - b$.

So far we have the following:

| Time slot | Number of visitors present |
|------------------|----------------------------|
| 8 AM to 9 AM | a |
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| 12 noon to 1 PM | 110 |
| 1 PM to 2 PM | 359 |

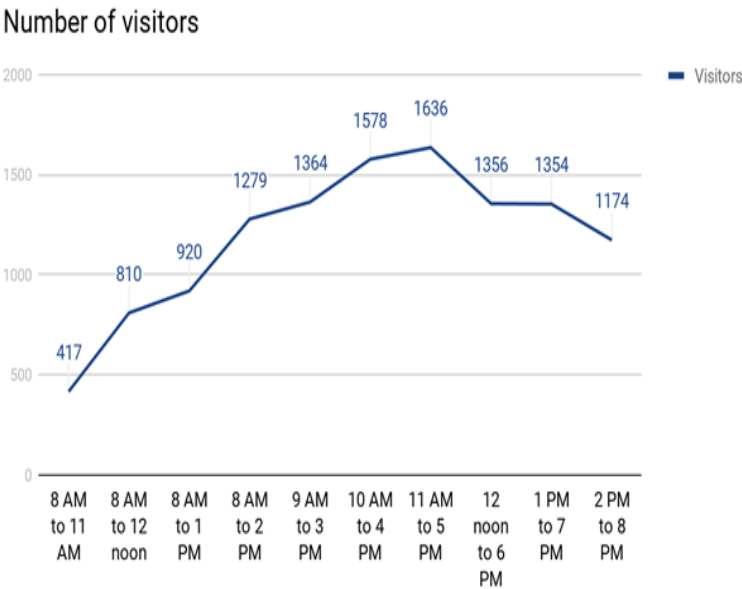
The number of visitors present between 2PM and 3PM = The number of visitors present between 9AM and 3PM - The number of visitors present between 9AM and 2PM = $1364 - (b + 417 - a - b + 393 + 110 + 359) = a + 85$

The number of visitors present between 3PM and 4PM = The number of visitors present between 10AM and 4PM - The number of visitors present between 10AM and 3PM = $1578 - (417 - a - b + 393 + 110 + 359 + a + 85) = b + 214$

Refer to the data below and answer the questions that follow.

Camel Festival is celebrated on every second weekend of January every year in Bikaner, Rajasthan. The show opens at 8 AM and is up-to 8 PM on both Saturday and Sunday. The visitors can enter the site every hour starting 8 AM up-to 7 PM and stay for one hour each. Once a visitor completes one hour in the festival, he/she leaves the Festival and does not return to the Festival on the same day.

The following graph shows the number of visitors present in the festival on Sunday between different time slots.



For example, the number of visitors from 8 AM to 11 AM = 417 i.e. the number of visitors from 8 AM to 9 AM + the number of visitors from 9 AM to 10 AM + the number of visitors from 10 AM to 11 AM = 417.

The number of visitors present between 5PM and 6PM = The number of visitors present between 12 noon and 6PM – The number of visitors present between 12 noon and 5PM = 1356 – (110 + 359 + a + 85+ b + 214 + 475 – a – b) = 113

The number of visitors present between 6PM and 7PM = The number of visitors present between 1PM and 7PM . The number of visitors present between 1PM and 6PM = 1354 – (359 + a + 85 + b + 214 + 475 – a – b + 113) = 108

The number of visitors present between 7PM and 8PM = The number of visitors present between 2PM and 8PM – The number of visitors present between 2PM and 7PM = 1174 – (a + 85 + b + 214 + 475 – a –b + 113 + 108) = 179

Now, we have the following:

| Time slot | Number of visitors present |
|------------------|----------------------------|
| 8 AM to 9 AM | a |
| 9 AM to 10 AM | b |
| 10 AM to 11 AM | 417 – a – b |
| 11 AM to 12 noon | 393 |
| 12 noon to 1 PM | 110 |
| 1 PM to 2 PM | 359 |
| 2 PM to 3 PM | a + 85 |
| 3 PM to 4 PM | b + 214 |
| 4 PM to 5 PM | 475 – a – b |
| 5 PM to 6 PM | 113 |
| 6 PM to 7 PM | 108 |
| 7 PM to 8 PM | 179 |

If 345 visitors entered the festival at 3PM, b + 214 = 345 or b = 131. Therefore the number of visitors who entered the festival at 10AM (or who left the festival at 11AM) = 417 – a – b = 417 – 168 –131 = 118.

Therefore, the required answer is 118.

Correct Answer:

Time taken by you: 0 secs

Avg Time taken by all students: 92 secs

Your Attempt: Skipped

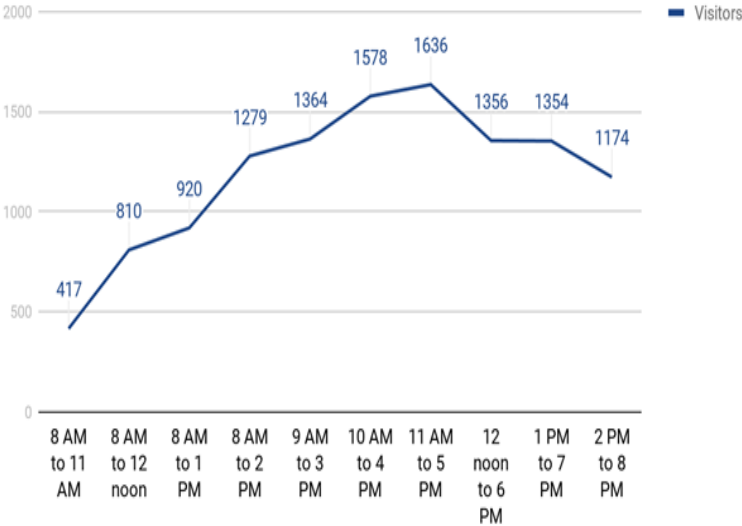
% Students got it correct: 46 %

Refer to the data below and answer the questions that follow.

Camel Festival is celebrated on every second weekend of January every year in Bikaner, Rajasthan. The show opens at 8 AM and is up-to 8 PM on both Saturday and Sunday. The visitors can enter the site every hour starting 8 AM up-to 7 PM and stay for one hour each. Once a visitor completes one hour in the festival, he/she leaves the Festival and does not return to the Festival on the same day.

The following graph shows the number of visitors present in the festival on Sunday between different time slots.

Number of visitors



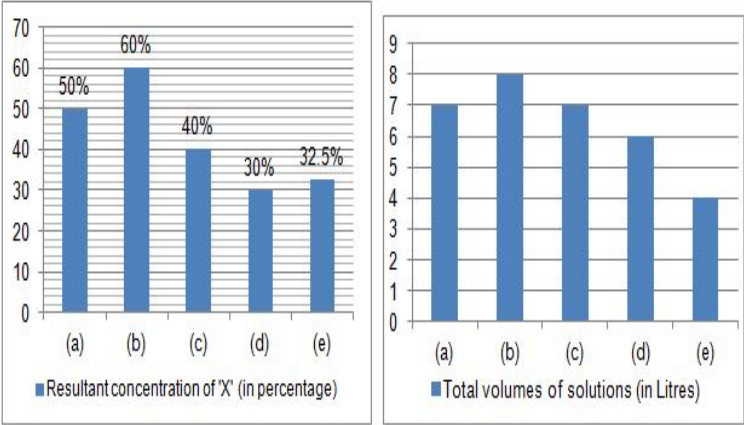
For example, the number of visitors from 8 AM to 11 AM = 417 i.e. the number of visitors from 8 AM to 9 AM + the number of visitors from 9 AM to 10 AM + the number of visitors from 10 AM to 11 AM = 417.

Refer to the data below and answer the questions that follow.

5 beakers in a laboratory contain 5 different solutions A, B, C, D and E, each containing a certain quantity of compound 'X'. Professor Xavier who wishes to calculate the concentration of 'X' in each of the solutions is provided with the theoretical values of the concentration of 'X' and the total volume of solutions that would be obtained if the compounds were to be mixed in pairs. The following were the given pairs-

- (a) If the entire solution 'A' was mixed with the entire solution 'B'
- (b) If the entire solution 'B' was mixed with the entire solution 'C'
- (c) If the entire solution 'C' was mixed with the entire solution 'D'
- (d) If the entire solution 'D' was mixed with the entire solution 'E'
- (e) If the entire solution 'E' was mixed with the entire solution 'A'

The resultant concentration of 'X' and the total volumes of the solutions are shown in the charts below.



1) What is the concentration of compound 'X' in solution C?

- ☐ 30%
- ☐ 25%
- ☐ 40%
- ☒ 60% ✓

Video Explanation: ▼

Explanation: ▼

Given graphs, can be represented as the below given table:

| Volume of Solutions | Concentration of X in percentages | Volume of X |
|---------------------|-----------------------------------|-------------|
| A + B = 7 | 50% | 3.5 |
| B + C = 8 | 60% | 4.8 |
| C + D = 7 | 40% | 2.8 |
| D + E = 6 | 30% | 1.8 |
| A + E = 4 | 32.50% | 1.3 |

It can be concluded that, $2(A + B + C + D + E) = 32$
 $\Rightarrow A + B + C + D + E = 16$; Since $B + C = 8$ and $D + E = 6$;
Thus, $A = 16 - 8 - 6 = 2$
Therefore, $B = 5, C = 3, D = 4, E = 2$
Let the volume of X in A, B, C, D and E be, a, b, c, d, and e respectively.

It can be concluded that, $2(a + b + c + d + e) = 14.2$
 $\Rightarrow a + b + c + d + e = 7.1$; Since $b + c = 4.8$ and $d + e = 1.8$;
Thus, $a = 7.1 - 4.8 - 1.8 = 0.5$

Therefore $b = 3, c = 1.8, d = 1, e = 0.8$

| Solution | Total Volume | Volume of X | Concentration of X |
|----------|--------------|-------------|--------------------|
| A | 2 | 0.5 | 25% |
| B | 5 | 3 | 60% |
| C | 3 | 1.8 | 60% |
| D | 4 | 1 | 25% |
| E | 2 | 0.8 | 40% |

Hence, [4].

Correct Answer: ▼

Time taken by you: 445 secs

Avg Time taken by all students: 317 secs

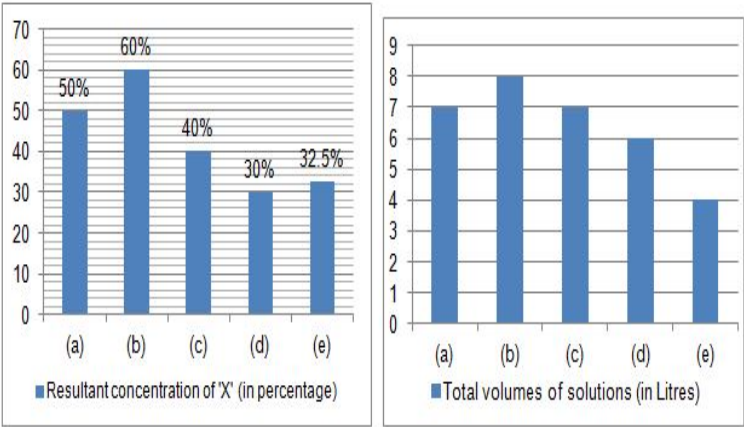
Your Attempt: Correct

Refer to the data below and answer the questions that follow.

5 beakers in a laboratory contain 5 different solutions A, B, C, D and E, each containing a certain quantity of compound 'X'. Professor Xavier who wishes to calculate the concentration of 'X' in each of the solutions is provided with the theoretical values of the concentration of 'X' and the total volume of solutions that would be obtained if the compounds were to be mixed in pairs. The following were the given pairs-

- (a) If the entire solution 'A' was mixed with the entire solution 'B'
- (b) If the entire solution 'B' was mixed with the entire solution 'C'
- (c) If the entire solution 'C' was mixed with the entire solution 'D'
- (d) If the entire solution 'D' was mixed with the entire solution 'E'
- (e) If the entire solution 'E' was mixed with the entire solution 'A'

The resultant concentration of 'X' and the total volumes of the solutions are shown in the charts below.



2) Which solution/s has/have the lowest concentration of compound 'X'?

- ☐ A
- ☐ D
- ☐ E
- ☒ Both 'A' and 'D'

Video Explanation:

Explanation:

Given graphs, can be represented as the below given table:

| Volume of Solutions | Concentration of X in percentages | Volume of X |
|---------------------|-----------------------------------|-------------|
| A + B = 7 | 50% | 3.5 |
| B + C = 8 | 60% | 4.8 |
| C + D = 7 | 40% | 2.8 |
| D + E = 6 | 30% | 1.8 |
| A + E = 4 | 32.50% | 1.3 |

It can be concluded that, $2(A + B + C + D + E) = 32$
 $\Rightarrow A + B + C + D + E = 16$; Since $B + C = 8$ and $D + E = 6$;
Thus, $A = 16 - 8 - 6 = 2$

Therefore, $B = 5, C = 3, D = 4, E = 2$

Let the volume of X in A, B, C, D and E be, a, b, c, d, and e respectively.

It can be concluded that, $2(a + b + c + d + e) = 14.2$
 $\Rightarrow a + b + c + d + e = 7.1$; Since $b + c = 4.8$ and $d + e = 1.8$;
Thus, $a = 7.1 - 4.8 - 1.8 = 0.5$

Therefore $b = 3, c = 1.8, d = 1, e = 0.8$

| Solution | Total Volume | Volume of X | Concentration of X |
|----------|--------------|-------------|--------------------|
| A | 2 | 0.5 | 25% |
| B | 5 | 3 | 60% |
| C | 3 | 1.8 | 60% |
| D | 4 | 1 | 25% |
| E | 2 | 0.8 | 40% |

Hence, [4].

Correct Answer:

Time taken by you: 7 secs

Avg Time taken by all students: 39 secs

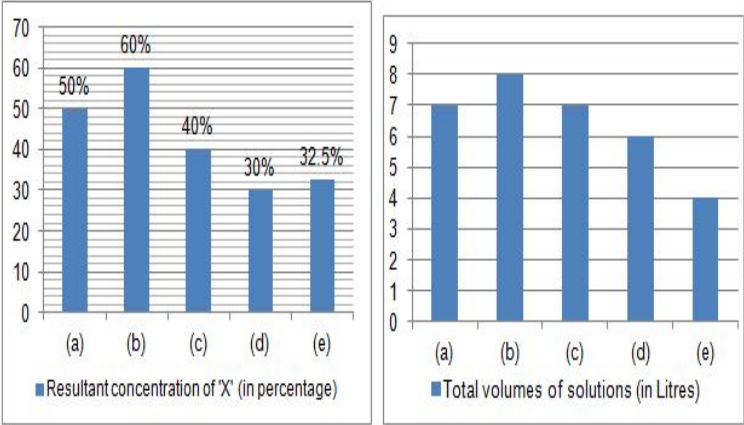
Your Attempt: Correct

Refer to the data below and answer the questions that follow.

5 beakers in a laboratory contain 5 different solutions A, B, C, D and E, each containing a certain quantity of compound 'X'. Professor Xavier who wishes to calculate the concentration of 'X' in each of the solutions is provided with the theoretical values of the concentration of 'X' and the total volume of solutions that would be obtained if the compounds were to be mixed in pairs. The following were the given pairs-

- (a) If the entire solution 'A' was mixed with the entire solution 'B'
- (b) If the entire solution 'B' was mixed with the entire solution 'C'
- (c) If the entire solution 'C' was mixed with the entire solution 'D'
- (d) If the entire solution 'D' was mixed with the entire solution 'E'
- (e) If the entire solution 'E' was mixed with the entire solution 'A'

The resultant concentration of 'X' and the total volumes of the solutions are shown in the charts below.



3) Which beaker has the highest volume of compound 'X'?

- ☐ A
- ☐ B
- ☐ C
- ☒ D

Video Explanation:

Explanation:

Given graphs, can be represented as the below given table:

| Volume of Solutions | Concentration of X in percentages | Volume of X |
|---------------------|-----------------------------------|-------------|
| A + B = 7 | 50% | 3.5 |
| B + C = 8 | 60% | 4.8 |
| C + D = 7 | 40% | 2.8 |
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It can be concluded that, $2(A + B + C + D + E) = 32$
 $\Rightarrow A + B + C + D + E = 16$; Since $B + C = 8$ and $D + E = 6$;
Thus, $A = 16 - 8 - 6 = 2$

Therefore, $B = 5, C = 3, D = 4, E = 2$

Let the volume of X in A, B, C, D and E be, a, b, c, d, and e respectively.

It can be concluded that, $2(a + b + c + d + e) = 14.2$
 $\Rightarrow a + b + c + d + e = 7.1$; Since $b + c = 4.8$ and $d + e = 1.8$;
Thus, $a = 7.1 - 4.8 - 1.8 = 0.5$

Therefore $b = 3, c = 1.8, d = 1, e = 0.8$

| Solution | Total Volume | Volume of X | Concentration of X |
|----------|--------------|-------------|--------------------|
| A | 2 | 0.5 | 25% |
| B | 5 | 3 | 60% |
| C | 3 | 1.8 | 60% |
| D | 4 | 1 | 25% |
| E | 2 | 0.8 | 40% |

Hence, [2].

Correct Answer:

Time taken by you: 20 secs

Avg Time taken by all students: 69 secs

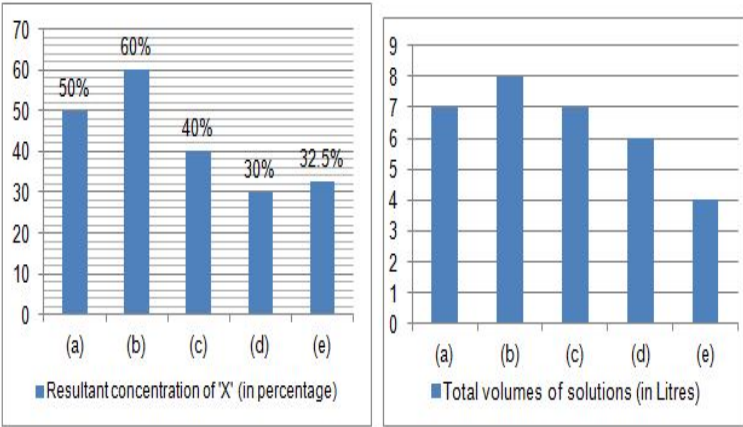
Your Attempt: Wrong

Refer to the data below and answer the questions that follow.

5 beakers in a laboratory contain 5 different solutions A, B, C, D and E, each containing a certain quantity of compound 'X'. Professor Xavier who wishes to calculate the concentration of 'X' in each of the solutions is provided with the theoretical values of the concentration of 'X' and the total volume of solutions that would be obtained if the compounds were to be mixed in pairs. The following were the given pairs-

- (a) If the entire solution 'A' was mixed with the entire solution 'B'
- (b) If the entire solution 'B' was mixed with the entire solution 'C'
- (c) If the entire solution 'C' was mixed with the entire solution 'D'
- (d) If the entire solution 'D' was mixed with the entire solution 'E'
- (e) If the entire solution 'E' was mixed with the entire solution 'A'

The resultant concentration of 'X' and the total volumes of the solutions are shown in the charts below.



4) What would have been the approximate resultant concentration of compound 'X' if solutions A, C and E were to be mixed?

- ☒ 44.28%
- ☐ 42.6%
- ☐ 41.54%
- ☐ 45.9%

Video Explanation:

Explanation:

Given graphs, can be represented as the below given table:

| Volume of Solutions | Concentration of X in percentages | Volume of X |
|---------------------|-----------------------------------|-------------|
| A + B = 7 | 50% | 3.5 |
| B + C = 8 | 60% | 4.8 |
| C + D = 7 | 40% | 2.8 |
| D + E = 6 | 30% | 1.8 |
| A + E = 4 | 32.50% | 1.3 |

It can be concluded that, $2(A + B + C + D + E) = 32$
 $\Rightarrow A + B + C + D + E = 16$; Since $B + C = 8$ and $D + E = 6$;
Thus, $A = 16 - 8 - 6 = 2$
Therefore, $B = 5, C = 3, D = 4, E = 2$
Let the volume of X in A, B, C, D and E be, a, b, c, d, and e respectively.
It can be concluded that, $2(a + b + c + d + e) = 14.2$
 $\Rightarrow a + b + c + d + e = 7.1$; Since $b + c = 4.8$ and $d + e = 1.8$; Thus, $a = 7.1 - 4.8 - 1.8 = 0.5$
Therefore $b = 3, c = 1.8, d = 1, e = 0.8$

| Solution | Total Volume | Volume of X | Concentration of X |
|----------|--------------|-------------|--------------------|
| A | 2 | 0.5 | 25% |
| B | 5 | 3 | 60% |
| C | 3 | 1.8 | 60% |
| D | 4 | 1 | 25% |
| E | 2 | 0.8 | 40% |

The required concentration = $\frac{0.5 + 1.8 + 0.8}{2 + 3 + 2} \times 100 = \frac{3.1}{7} \times 100 = 44.28\%$
Hence, [1].

Correct Answer:

Time taken by you: 68 secs

Avg Time taken by all students: 45 secs

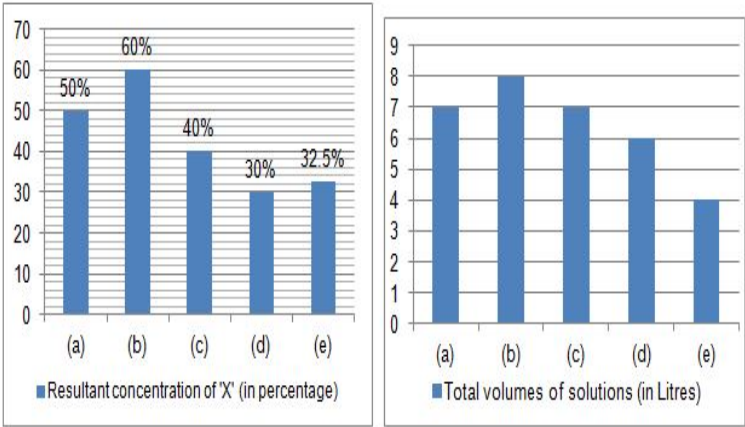
% Students got it correct: **64 %**

Refer to the data below and answer the questions that follow.

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- (a) If the entire solution 'A' was mixed with the entire solution 'B'
- (b) If the entire solution 'B' was mixed with the entire solution 'C'
- (c) If the entire solution 'C' was mixed with the entire solution 'D'
- (d) If the entire solution 'D' was mixed with the entire solution 'E'
- (e) If the entire solution 'E' was mixed with the entire solution 'A'

The resultant concentration of 'X' and the total volumes of the solutions are shown in the charts below.



Refer to the data below and answer the questions that follow.

Each two digit number corresponds to exactly one letter from alphabet. Each letters corresponds to 3 or four numbers.

'291714 291019 2210173621 321054
13142818162310291439 1028 10

302314281224 3224272113 4314271829101614 28185514
1849 jv' means 'The Taj Mahal was designated as
a UNESCO World Heritage Site in 1983'.

1) How many letters corresponds to 4 numbers? —

Enter your response (as an integer) using the virtual keyboard in the box provided

Video Explanation: ▼

Explanation: ▼

Let α number of letters correspond to 3 numbers and β number of correspond to 4 numbers.

There are 90 two-digit numbers and 26 letters.

$$\alpha + \beta = 26 \text{ and } 3\alpha + 4\beta = 90$$

Solving these equations, we get $\beta = 12$

Therefore, the required answer is 12.

Correct Answer: ▼

Time taken by you: **0 secs**

Avg Time taken by all students: **38 secs**

Your Attempt: **Skipped**

% Students got it correct: **7 %**

2) If the difference between any two numbers corresponding to a particular letter is a multiple of α (not a prime number); a constant number; which of the following numbers cannot be the difference? —

- ☐ 26
- ☐ 52
- ☐ 78
- ☐ 84

Video Explanation: ▼

Refer to the data below and answer the questions that follow.

Each two digit number corresponds to exactly one letter from alphabet. Each letters corresponds to 3 or four numbers.

‘291714 291019 2210173621 321054
13142818162310291439 1028 10
302314281224 3224272113 4314271829101614 28185514
1849 jv’ means ‘The Taj Mahal was designated as
a UNESCO World Heritage Site in 1983’.

a ≡ 10,
1028 ≡ as ⇒ s ≡ 28
3224272113 ≡ World & 321054 ≡ was ⇒ w ≡ 32 ⇒ s ≡ 54
Now, 54 – 28 = 26
As α is not a prime number, α = 26
Therefore, the difference can be 26, 52, 78.
Hence, [4].

Correct Answer:

Time taken by you: 0 secs
Avg Time taken by all students: 114 secs
Your Attempt: Skipped
% Students got it correct: 69 %

3) Which of the following can be the numbers corresponding to ‘s’, if ‘s’ corresponds to exactly 3 numbers?

- ☐ 20, 46 and 54
- ☐ 28, 54 and 80
- ☐ 26, 52 and 78
- ☐ 28, 55 and 82

Video Explanation:

Explanation:

a ≡ 10,
291714 ≡ The & 291019 ≡ Taj ⇒ T ≡ 29 ⇒ j = 19
∴ jv ≡ 1983 ⇒ v = 83
1028 ≡ as ⇒ s ≡ 28
3224272113 ≡ World & 321054 ≡ was ⇒ w ≡ 32 ⇒ s ≡ 54
The only option that has 28 and 54 is option [2].
Hence, [2].

Correct Answer:

Time taken by you: 0 secs

Refer to the data below and answer the questions that follow.

Each two digit number corresponds to exactly one letter from alphabet. Each letters corresponds to 3 or four numbers.

‘291714 291019 2210173621 321054
13142818162310291439 1028 10
302314281224 3224272113 4314271829101614 28185514
1849 jv’ means ‘The Taj Mahal was designated as
a UNESCO World Heritage Site in 1983’.

Your Attempt: Skipped

% Students got it correct: 91 %

4) How many numbers corresponds to ‘v’ and ‘j’ together? (Use the data from previous questions)

Enter your response (as an integer) using the virtual keyboard in the box provided

Video Explanation:

Explanation:

a ≡ 10,
291714 ≡ The & 291019 ≡ Taj ⇒ T ≡ 29 ⇒ j = 19
∴ jv ≡ 1983 ⇒ v = 83
1028 ≡ as ⇒ s ≡ 28
3224272113 ≡ World & 321054 ≡ was ⇒ w ≡ 32 ⇒ s ≡ 54
Now, 54 – 28 = 26
As α is not a prime number, α = 26
Therefore, the difference can be 26, 52, 78.
Consider v = 83. 83 + 26 = 109. Therefore 83 is the maximum value that ‘v’ can take.
83 – 78 = 5, 83 – 52 = 31, 83 – 26 = 57
‘v’ cannot be 5. Hence ‘v’ corresponds to 31, 57 and 83. i.e., 3 numbers..
As j = 19, j corresponds to 19, 45, 71 and 97. i.e., 4 values.
3 + 4 = 7
Therefore, the required answer is 7.

Correct Answer:

Time taken by you: 0 secs

Avg Time taken by all students: 8 secs

Your Attempt: Skipped

% Students got it correct: 12 %

Refer to the data below and answer the questions that follow.

Each two digit number corresponds to exactly one letter from alphabet. Each letters corresponds to 3 or four numbers.

‘291714 291019 2210173621 321054
13142818162310291439 1028 10

302314281224 3224272113 4314271829101614 28185514
1849 jv’ means ‘The Taj Mahal was designated as
a UNESCO World Heritage Site in 1983’.

Loading...

Refer to the data below and answer the questions that follow.

Advertisements (ads) of ten products A, B, C, D, E, F, G, H, J and P have to be televised during the commercial break of a 'Movie of the Week'. The sequence of the ads has to be decided based on the following conditions of the sponsors:

- i. The ads of D and F are televised together, either at the beginning or at the end of the commercial break.
- ii. The ads of C and P, which are two similar products, are sequenced as far apart as possible.
- iii. The ads of B and E are televised as the 5th and 6th ads, not necessarily in that order.
- iv. The ad of G is televised before the ad of P but after the ad of A. The ad of H is televised after the ad of C but before the ad of G.
- v. Three ads are televised between the ads of B and J.

1) Which of the following cannot be a possible combination of a product and the position of its ad in the sequence?

- ☐ A – 3rd
- ☐ G – 7th
- ☐ J – 2nd
- ☒ G – 3rd ✓

Video Explanation: ▼

Explanation: ▼

Using i, ii and iii, we have the following possibilities:

| | | | | | | | | | |
|------------|------------|------------|---|------------|------------|---|------------|------------|------------|
| <u>D/F</u> | <u>F/D</u> | <u>C/P</u> | – | <u>B/E</u> | <u>E/B</u> | – | – | – | <u>P/C</u> |
| | | | | OR | | | | | |
| <u>P/C</u> | – | – | – | <u>B/E</u> | <u>E/B</u> | – | <u>C/P</u> | <u>F/D</u> | <u>D/F</u> |

Using v;

| | | | | | | | | | |
|------------|------------|------------|---|----------|----------|---|------------|------------|------------|
| <u>D/F</u> | <u>F/D</u> | <u>C/P</u> | – | <u>B</u> | <u>E</u> | – | – | J | <u>P/C</u> |
| | | | | OR | | | | | |
| <u>P/C</u> | J | – | – | <u>E</u> | <u>B</u> | – | <u>C/P</u> | <u>F/D</u> | <u>D/F</u> |

Using iv,

| | | | | | | | | | | |
|---|-----|-----|-----|-----|---|---|-----|---|-----|-----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 1 | D/F | F/D | C | A/H | B | E | H/A | G | J | P |
| 2 | C | J | A/H | H/A | E | B | G | P | F/D | D/F |

G cannot be in the third position.
Hence, [4].

Correct Answer: ▼

Time taken by you: 421 secs

Avg Time taken by all students: 456 secs

Your Attempt: Correct

% Students got it correct: 77 %

2) The ads of which of the following pairs of products cannot be televised consecutively?

- ☐ C and J
- ☐ F and C
- ☐ A and B
- ☒ None of these ✓

Refer to the data below and answer the questions that follow.

Advertisements (ads) of ten products A, B, C, D, E, F, G, H, J and P have to be televised during the commercial break of a 'Movie of the Week'. The sequence of the ads has to be decided based on the following conditions of the sponsors:

- i. The ads of D and F are televised together, either at the beginning or at the end of the commercial break.
- ii. The ads of C and P, which are two similar products, are sequenced as far apart as possible.
- iii. The ads of B and E are televised as the 5th and 6th ads, not necessarily in that order.
- iv. The ad of G is televised before the ad of P but after the ad of A. The ad of H is televised after the ad of C but before the ad of G.
- v. Three ads are televised between the ads of B and J.

Explanation: ▼

Using i, ii and iii, we have the following possibilities:

| | | | | | | | | | |
|------------|------------|------------|---|------------|------------|---|------------|------------|------------|
| <u>D/F</u> | <u>F/D</u> | <u>C/P</u> | - | <u>B/E</u> | <u>E/B</u> | - | - | - | <u>P/C</u> |
| OR | | | | | | | | | |
| <u>P/C</u> | - | - | - | <u>B/E</u> | <u>E/B</u> | - | <u>C/P</u> | <u>F/D</u> | <u>D/F</u> |

Using v;

| | | | | | | | | | |
|------------|------------|------------|---|----------|----------|---|------------|------------|------------|
| <u>D/F</u> | <u>F/D</u> | <u>C/P</u> | - | <u>B</u> | <u>E</u> | - | - | J | <u>P/C</u> |
| OR | | | | | | | | | |
| <u>P/C</u> | J | - | - | <u>E</u> | <u>B</u> | - | <u>C/P</u> | <u>F/D</u> | <u>D/F</u> |

Using iv,

| | | | | | | | | | | |
|---|-----|-----|-----|-----|---|---|-----|---|-----|-----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
| 1 | D/F | F/D | C | A/H | B | E | H/A | G | J | P |
| 2 | C | J | A/H | H/A | E | B | G | P | F/D | D/F |

Hence, [4].

Correct Answer: ▼

Time taken by you: 21 secs

Avg Time taken by all students: 52 secs

Your Attempt: Correct

% Students got it correct: 56 %

3) If the ad of J is televised immediately before the ad of A, then the ad of which of the following products is televised immediately after the ad of B?

- ☐ E
- ☐ P
- ☒ G 
- ☐ H

Video Explanation: ▼

Refer to the data below and answer the questions that follow.

Advertisements (ads) of ten products A, B, C, D, E, F, G, H, J and P have to be televised during the commercial break of a 'Movie of the Week'. The sequence of the ads has to be decided based on the following conditions of the sponsors:

- i. The ads of D and F are televised together, either at the beginning or at the end of the commercial break.
- ii. The ads of C and P, which are two similar products, are sequenced as far apart as possible.
- iii. The ads of B and E are televised as the 5th and 6th ads, not necessarily in that order.
- iv. The ad of G is televised before the ad of P but after the ad of A. The ad of H is televised after the ad of C but before the ad of G.
- v. Three ads are televised between the ads of B and J.

Using i, ii and iii, we have the following possibilities:

| | | | | | | | | | |
|------------|------------|------------|---|------------|------------|---|------------|------------|------------|
| <u>D/F</u> | <u>F/D</u> | <u>C/P</u> | - | <u>B/E</u> | <u>E/B</u> | - | - | - | <u>P/C</u> |
| OR | | | | | | | | | |
| <u>P/C</u> | - | - | - | <u>B/E</u> | <u>E/B</u> | - | <u>C/P</u> | <u>F/D</u> | <u>D/F</u> |

Using v;

| | | | | | | | | | |
|------------|------------|------------|---|----------|----------|---|------------|------------|------------|
| <u>D/F</u> | <u>F/D</u> | <u>C/P</u> | - | <u>B</u> | <u>E</u> | - | - | <u>J</u> | <u>P/C</u> |
| OR | | | | | | | | | |
| <u>P/C</u> | <u>J</u> | - | - | <u>E</u> | <u>B</u> | - | <u>C/P</u> | <u>F/D</u> | <u>D/F</u> |

Using iv,

| | | | | | | | | | | |
|---|-----|-----|-----|-----|---|---|-----|---|-----|-----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 1 | D/F | F/D | C | A/H | B | E | H/A | G | J | P |
| 2 | C | J | A/H | H/A | E | B | G | P | F/D | D/F |

According to possibility 2, G is televised immediately after B.
Hence, [3].

Correct Answer:

Time taken by you: 14 secs

Avg Time taken by all students: 51 secs

Your Attempt: Correct

% Students got it correct: 63 %

4) If the ad of C is televised before the ad of D, then the ad of G will be televised

- ☒ 7th
- ☐ 8th
- ☐ 9th
- ☐ Cannot be determined

Video Explanation:

Refer to the data below and answer the questions that follow.

Advertisements (ads) of ten products A, B, C, D, E, F, G, H, J and P have to be televised during the commercial break of a 'Movie of the Week'. The sequence of the ads has to be decided based on the following conditions of the sponsors:

- i. The ads of D and F are televised together, either at the beginning or at the end of the commercial break.
- ii. The ads of C and P, which are two similar products, are sequenced as far apart as possible.
- iii. The ads of B and E are televised as the 5th and 6th ads, not necessarily in that order.
- iv. The ad of G is televised before the ad of P but after the ad of A. The ad of H is televised after the ad of C but before the ad of G.
- v. Three ads are televised between the ads of B and J.

Using i, ii and iii, we have the following possibilities:

| | | | | | | | | | |
|------------|------------|------------|---|------------|------------|---|------------|------------|------------|
| <u>D/F</u> | <u>F/D</u> | <u>C/P</u> | - | <u>B/E</u> | <u>E/B</u> | - | - | - | <u>P/C</u> |
| OR | | | | | | | | | |
| <u>P/C</u> | - | - | - | <u>B/E</u> | <u>E/B</u> | - | <u>C/P</u> | <u>F/D</u> | <u>D/F</u> |

Using v;

| | | | | | | | | | |
|------------|------------|------------|---|----------|----------|---|------------|------------|------------|
| <u>D/F</u> | <u>F/D</u> | <u>C/P</u> | - | <u>B</u> | <u>E</u> | - | - | J | <u>P/C</u> |
| OR | | | | | | | | | |
| <u>P/C</u> | J | - | - | <u>E</u> | <u>B</u> | - | <u>C/P</u> | <u>F/D</u> | <u>D/F</u> |

Using iv,

| | | | | | | | | | | |
|---|-----|-----|-----|-----|---|---|-----|---|-----|-----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 1 | D/F | F/D | C | A/H | B | E | H/A | G | J | P |
| 2 | C | J | A/H | H/A | E | B | G | P | F/D | D/F |

According to possibility 2, G will be televised 7th.
Hence, [1].

Correct Answer: ▼

Time taken by you: 19 secs

Avg Time taken by all students: 48 secs

Your Attempt: Correct

% Students got it correct: 72 %

Loading...

Refer to the data below and answer the questions that follow.

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3. The drive lasted for three weeks and in each week, each player who had not become a registered player at the beginning of the week played at least one but up-to four (including four) Chess matches with any of the existing registered members of the organizations.
4. In all three players each qualified for the membership of the association at the end of the first and the second weeks. The remaining four players qualified for the membership of the association at the end of the third week.
5. The numbers of Chess matches played in the first and the second weeks were 25 and 11 respectively.
6. Only one player played exactly 3 Chess matches in the first and the second weeks.
7. Exactly one player who played two matches in the first week became registered member of the association at the end of the second week.

1) How many matches were played in the third week? (Write 0 if your answer is ‘Cannot be determined’).

Enter your response (as an integer) using the virtual keyboard in the box provided.

Video Explanation: ▼

Explanation: ▼

Let us name the ten players as A, B, C, D, E, F, G, H, I and J.

Week-1

Given: Three players qualified for the membership of the association. Suppose A, B and C are these three players. That means they played four matches each in Week 1 (total 12 matches).

Given: Exactly one player played 3 Chess matches in Week 1. Suppose that player is D. So far we have identified a total of $12 + 3 = 15$ matches out of 25 matches played in Week 1.

The remaining six players played 10 matches together. This is possible only if four of the six players played two matches each and the remaining two players played one match each. Suppose E, F, G and H are the four players who played two matches each and I and J are the two players who played one match each.

So far we have the following:

| Player | A | B | C | D | E | F | G | H | I | J |
|--------|---|---|---|---|---|---|---|---|---|---|
| Week-1 | 4 | 4 | 4 | 3 | 2 | 2 | 2 | 2 | 1 | 1 |

Week-2

In Week-2, players A, B and C will not play as they have already become members of the association.

Given: There is one player who played three matches in week-2. That player must be the one who played only one match in Week-1. Suppose that player is J. Therefore J qualified for membership in the second week.

Given: There is exactly one player who played two matches in Week-1 became registered member i.e. that player played additional two matches in Week-2. Suppose that player is player H.

Out of the 11 matches played in Week-2, we have accounted for $3 + 2 = 5$ matches played by two players so far. The remaining five players played the remaining $11 - 5 = 6$ matches. This is possible only if one player played two matches and the remaining four

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4. In all three players each qualified for the membership of the association at the end of the first and the second weeks. The remaining four players qualified for the membership of the association at the end of the third week.
5. The numbers of Chess matches played in the first and the second weeks were 25 and 11 respectively.
6. Only one player played exactly 3 Chess matches in the first and the second weeks.
7. Exactly one player who played two matches in the first week became registered member of the association at the end of the second week.

So far we have the following:

| Player | A | B | C | D | E | F | G | H | I | J |
|--------|---|---|---|---|---|---|---|---|---|---|
| Week-1 | 4 | 4 | 4 | 3 | 2 | 2 | 2 | 2 | 1 | 1 |
| Week-2 | | | | 1 | 1 | 1 | 1 | 2 | 2 | 3 |

Players D, H and J qualified for membership at the end of week 2.

Week-3

Given: All the players qualified for membership by the end of the third week. That means the remaining four players (E, F, G and I) played one match each in Week-3.

Therefore the required answer is 4.

Correct Answer:

Time taken by you: **0 secs**

Avg Time taken by all students: **99 secs**

Your Attempt: **Skipped**

% Students got it correct: **28 %**

2) How many players played more matches in the second week than in the first week? —

Enter your response (as an integer) using the virtual keyboard in the box provided.

Video Explanation:

Refer to the data below and answer the questions that follow.

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3. The drive lasted for three weeks and in each week, each player who had not become a registered player at the beginning of the week played at least one but up-to four (including four) Chess matches with any of the existing registered members of the organizations.
4. In all three players each qualified for the membership of the association at the end of the first and the second weeks. The remaining four players qualified for the membership of the association at the end of the third week.
5. The numbers of Chess matches played in the first and the second weeks were 25 and 11 respectively.
6. Only one player played exactly 3 Chess matches in the first and the second weeks.
7. Exactly one player who played two matches in the first week became registered member of the association at the end of the second week.

Let us name the ten players as A, B, C, D, E, F, G, H, I and J.

Week-1

Given: Three players qualified for the membership of the association. Suppose A, B and C are these three players. That means they played four matches each in Week 1 (total 12 matches).

Given: Exactly one player played 3 Chess matches in Week 1. Suppose that player is D. So far we have identified a total of $12 + 3 = 15$ matches out of 25 matches played in Week 1.

The remaining six players played 10 matches together. This is possible only if four of the six players played two matches each and the remaining two players played one match each. Suppose E, F, G and H are the four players who played two matches each and I and J are the two players who played one match each.

So far we have the following:

| Player | A | B | C | D | E | F | G | H | I | J |
|--------|---|---|---|---|---|---|---|---|---|---|
| Week-1 | 4 | 4 | 4 | 3 | 2 | 2 | 2 | 2 | 1 | 1 |

Week-2

In Week-2, players A, B and C will not play as they have already become members of the association.

Given: There is one player who played three matches in week-2. That player must be the one who played only one match in Week-1. Suppose that player is J. Therefore J qualified for membership in the second week.

Given: There is exactly one player who played two matches in Week-1 became registered member i.e. that player played additional two matches in Week-2. Suppose that player is player H.

Out of the 11 matches played in Week-2, we have accounted for $3 + 2 = 5$ matches played by two players so far. The remaining five players played the remaining $11 - 5 = 6$ matches. This is possible only if one player played two matches and the remaining four players played one match each. Now, the player who played two matches in Week-2 must be player I as otherwise that would violate condition 7.

So far we have the following:

| Player | A | B | C | D | E | F | G | H | I | J |
|--------|---|---|---|---|---|---|---|---|---|---|
| Week-1 | 4 | 4 | 4 | 3 | 2 | 2 | 2 | 2 | 1 | 1 |
| Week-2 | | | | 1 | 1 | 1 | 1 | 2 | 2 | 3 |

Players D, H and J qualified for membership at the end of week 2.

Week-3

Given: All the players qualified for membership by the end of the third week. That means the remaining four players (E, F, G and I) played one match each in Week-3.

Therefore the required answer is 2.

Correct Answer:

▼

Time taken by you: 0 secs

Avg Time taken by all students: 23 secs

Your Attempt: Skipped

% Students got it correct: 25 %

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5. The numbers of Chess matches played in the first and the second weeks were 25 and 11 respectively.
6. Only one player played exactly 3 Chess matches in the first and the second weeks.
7. Exactly one player who played two matches in the first week became registered member of the association at the end of the second week.

3) How many players played exactly two matches in the second week? —

- ☐ 0
- ☐ 1
- ☐ 2
- ☐ 3

Video Explanation: ▼

Explanation: ▼

Let us name the ten players as A, B, C, D, E, F, G, H, I and J.

Week-1

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The remaining six players played 10 matches together. This is possible only if four of the six players played two matches each and the remaining two players played one match each. Suppose E, F, G and H are the four players who played two matches each and I and J are the two players who played one match each.

So far we have the following:

| Player | A | B | C | D | E | F | G | H | I | J |
|--------|---|---|---|---|---|---|---|---|---|---|
| Week-1 | 4 | 4 | 4 | 3 | 2 | 2 | 2 | 2 | 1 | 1 |

Week-2

In Week-2, players A, B and C will not play as they have already become members of the association.

Given: There is one player who played three matches in week-2. That player must be the one who played only one match in Week-1. Suppose that player is J. Therefore J qualified for membership in the second week.

Given: There is exactly one player who played two matches in Week-1 became registered member i.e. that player played additional two matches in Week-2. Suppose that player is player H.

Out of the 11 matches played in Week-2, we have accounted for $3 + 2 = 5$ matches played by two players so far. The remaining five players played the remaining $11 - 5 = 6$ matches. This is possible only if one player played two matches and the remaining four players played one match each. Now, the player who played two matches in Week-2 must be player I as otherwise that would violate condition 7.

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6. Only one player played exactly 3 Chess matches in the first and the second weeks.
7. Exactly one player who played two matches in the first week became registered member of the association at the end of the second week.

| Player | A | B | C | D | E | F | G | H | I | J |
|--------|---|---|---|---|---|---|---|---|---|---|
| Week-1 | 4 | 4 | 4 | 3 | 2 | 2 | 2 | 2 | 1 | 1 |
| Week-2 | | | | 1 | 1 | 1 | 1 | 2 | 2 | 3 |

Players D, H and J qualified for membership at the end of week 2.

Week-3

Given: All the players qualified for membership by the end of the third week. That means the remaining four players (E, F, G and I) played one match each in Week-3.

Hence, [3].

Correct Answer:

Time taken by you: 0 secs

Avg Time taken by all students: 32 secs

Your Attempt: Skipped

% Students got it correct: 51 %

4) How many players played exactly two matches in the third week?

- ☐ 0
- ☐ 1
- ☐ 2
- ☐ 3

Video Explanation:

Explanation:

Let us name the ten players as A, B, C, D, E, F, G, H, I and J.

Week-1

Given: Three players qualified for the membership of the association. Suppose A, B and C are these three players. That means they played four matches each in Week 1 (total 12 matches).

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The remaining six players played 10 matches together. This is possible only if four of the six players played two matches each and the remaining two players played one match each. Suppose E, F, G and H are the four players who played two matches each and I and J are the two players who played one match each.

So far we have the following:

| Player | A | B | C | D | E | F | G | H | Change Section here | |
|--------|---|---|---|---|---|---|---|---|---------------------|---|
| Week-1 | 4 | 4 | 4 | 3 | 2 | 2 | 2 | 2 | 1 | 1 |

Refer to the data below and answer the questions that follow.

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- In all three players each qualified for the membership of the association at the end of the first and the second weeks. The remaining four players qualified for the membership of the association at the end of the third week.
- The numbers of Chess matches played in the first and the second weeks were 25 and 11 respectively.
- Only one player played exactly 3 Chess matches in the first and the second weeks.
- Exactly one player who played two matches in the first week became registered member of the association at the end of the second week.

Week-2

In Week-2, players A, B and C will not play as they have already become members of the association.

Given: There is one player who played three matches in week-2. That player must be the one who played only one match in Week-1. Suppose that player is J. Therefore J qualified for membership in the second week.

Given: There is exactly one player who played two matches in Week-1 became registered member i.e. that player played additional two matches in Week-2. Suppose that player is player H.

Out of the 11 matches played in Week-2, we have accounted for 3 + 2 = 5 matches played by two players so far. The remaining five players played the remaining 11 - 5 = 6 matches. This is possible only if one player played two matches and the remaining four players played one match each. Now, the player who played two matches in Week-2 must be player I as otherwise that would violate condition 7.

So far we have the following:

| Player | A | B | C | D | E | F | G | H | I | J |
|--------|---|---|---|---|---|---|---|---|---|---|
| Week-1 | 4 | 4 | 4 | 3 | 2 | 2 | 2 | 2 | 1 | 1 |
| Week-2 | | | | 1 | 1 | 1 | 1 | 2 | 2 | 3 |

Players D, H and J qualified for membership at the end of week 2.

Week-3

Given: All the players qualified for membership by the end of the third week. That means the remaining four players (E, F, G and I) played one match each in Week-3.

Hence, [1].

Correct Answer:

Time taken by you: 0 secs

Avg Time taken by all students: 14 secs

Your Attempt: Skipped

% Students got it correct: 48 %

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6. Only one player played exactly 3 Chess matches in the first and the second weeks.
7. Exactly one player who played two matches in the first week became registered member of the association at the end of the second week.

Refer to the data below and answer the questions that follow.

5 gamers Ash, Misty, Brock, Tracy and Gary participate in a ‘PokemonGo’ competition to catch 25 Pokemons – 5 each of Abra, Bayleef, Charizard, Dodrio and Elekid. Each gamer catches exactly one Pokemon by the end of every 3 minute round. The Pokemon caught by all gamers at the end of a particular round were all distinct. No person catches more than one Pokemon of a particular type. Further,

1. Tracy’s first Pokemon was Elekid while Ash’s first Pokemon was Abra.
2. Charizard was Tracy’s second but Ash’s fourth Pokemon.
3. Brock’s second Pokemon was Bayleef while Abra was the last Pokemon that he caught.
4. Misty caught a Dodrio at the end of the third round.
5. Gary caught a Bayleef and a Charizard only after Brock caught them.

1) Which was the first Pokemon that Misty caught?

- ☒ Bayleef
- ☐ Charizard
- ☐ Dodrio
- ☐ Cannot be determined

Video Explanation:

Explanation:

Let each of 5 Pokemons be denoted by the first letter of their name; A, B, C, D and E. By using conditions 1, 2, 3, and 4 we get the following table:

| | Round I | Round II | Round III | Round IV | Round V |
|-------|---------|----------|-----------|----------|---------|
| Tracy | E | C | | | |
| Ash | A | | | C | |
| Brock | | B | | | A |
| Misty | | | D | | |
| Gary | | | | | |

Now using the condition 5; Gary definitely did not catch B and C in round I and since each gamer caught different Pokemon in each round, Gary caught D in round I, Brock caught C in round I and Misty caught B in round I.

| | Round I | Round II | Round III | Round IV | Round V |
|-------|---------|----------|-----------|----------|---------|
| Tracy | E | C | | | |
| Ash | A | | | C | |
| Brock | C | B | | | A |
| Misty | B | | D | | |
| Gary | D | | | | |

Now Brock must have caught E in round III and D in round IV. In round II D was caught definitely by Ash. Thus, Ash caught B in round III and E in round V.

| | Round I | Round II | Round III | Round IV | Round V |
|-------|---------|----------|-----------|----------|---------|
| Tracy | E | C | | | |
| Ash | A | D | B | C | E |
| Brock | C | B | E | D | A |
| Misty | B | | D | | |
| Gary | D | | | | |

Tracy must have caught A in round III and Gary must have caught C in round III. Thus, Tracy caught B in round IV and D in round V. Misty must have caught C and Gary must have caught B in round V. The final conclusion is as follows:

| | Round I | Round II | Round III | Round IV | Round V |
|-------|---------|----------|-----------|----------|---------|
| Tracy | E | C | A | B | D |
| Ash | A | D | B | C | E |
| Brock | C | B | E | D | A |
| Misty | B | A/E | D | E/A | C |
| Gary | D | E/A | C | A/E | B |

Bayleef was the first Pokemon that Misty caught. Hence, [1].

Correct Answer:

Refer to the data below and answer the questions that follow.

5 gamers Ash, Misty, Brock, Tracy and Gary participate in a ‘PokemonGo’ competition to catch 25 Pokemons – 5 each of Abra, Bayleef, Charizard, Dodrio and Elekid. Each gamer catches exactly one Pokemon by the end of every 3 minute round. The Pokemon caught by all gamers at the end of a particular round were all distinct. No person catches more than one Pokemon of a particular type. Further,

1. Tracy’s first Pokemon was Elekid while Ash’s first Pokemon was Abra.
2. Charizard was Tracy’s second but Ash’s fourth Pokemon.
3. Brock’s second Pokemon was Bayleef while Abra was the last Pokemon that he caught.
4. Misty caught a Dodrio at the end of the third round.
5. Gary caught a Bayleef and a Charizard only after Brock caught them.

Your Attempt: **Correct**

% Students got it correct: **74 %**

2) Abra was the fourth Pokemon for _____

- ☐ Misty
- ☐ Tracy
- ☐ Gary
- ☒ Cannot be determined

Video Explanation:

Explanation:

Let each of 5 Pokemons be denoted by the first letter of their name; A, B, C, D and E. By using conditions 1, 2, 3, and 4 we get the following table:

| | Round I | Round II | Round III | Round IV | Round V |
|-------|---------|----------|-----------|----------|---------|
| Tracy | E | C | | | |
| Ash | A | | | C | |
| Brock | | B | | | A |
| Misty | | | D | | |
| Gary | | | | | |

Now using the condition 5; Gary definitely did not catch B and C in round I and since each gamer caught different Pokemon in each round, Gary caught D in round I, Brock caught C in round I and Misty caught B in round I.

| | Round I | Round II | Round III | Round IV | Round V |
|-------|---------|----------|-----------|----------|---------|
| Tracy | E | C | | | |
| Ash | A | | | C | |
| Brock | C | B | | | A |
| Misty | B | | D | | |
| Gary | D | | | | |

Now Brock must have caught E in round III and D in round IV. In round II D was caught definitely by Ash. Thus, Ash caught B in round III and E in round V.

| | Round I | Round II | Round III | Round IV | Round V |
|-------|---------|----------|-----------|----------|---------|
| Tracy | E | C | | | |
| Ash | A | D | B | C | E |
| Brock | C | B | E | D | A |
| Misty | B | | D | | |
| Gary | D | | | | |

Tracy must have caught A in round III and Gary must have caught C in round III. Thus, Tracy caught B in round IV and D in round V. Misty must have caught C and Gary must have caught B in round V. The final conclusion is as follows:

| | Round I | Round II | Round III | Round IV | Round V |
|-------|---------|----------|-----------|----------|---------|
| Tracy | E | C | A | B | D |
| Ash | A | D | B | C | E |
| Brock | C | B | E | D | A |
| Misty | B | A/E | D | E/A | C |
| Gary | D | E/A | C | A/E | B |

Abra was the fourth Pokemon for either Misty or Gary. Hence, [4].

Refer to the data below and answer the questions that follow.

5 gamers Ash, Misty, Brock, Tracy and Gary participate in a ‘PokemonGo’ competition to catch 25 Pokemons – 5 each of Abra, Bayleef, Charizard, Dodrio and Elekid. Each gamer catches exactly one Pokemon by the end of every 3 minute round. The Pokemon caught by all gamers at the end of a particular round were all distinct. No person catches more than one Pokemon of a particular type. Further,

1. Tracy’s first Pokemon was Elekid while Ash’s first Pokemon was Abra.
2. Charizard was Tracy’s second but Ash’s fourth Pokemon.
3. Brock’s second Pokemon was Bayleef while Abra was the last Pokemon that he caught.
4. Misty caught a Dodrio at the end of the third round.
5. Gary caught a Bayleef and a Charizard only after Brock caught them.

Time taken by you: 348 secs

Avg Time taken by all students: 117 secs

Your Attempt: Correct

% Students got it correct: 56 %

3)

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Additional information: At the end of each round the Pokemon caught earned the gamers 1, 2, 3, 4 and 5 points as per the alphabetical order of Pokemon names.

Which gamer earned the maximum cumulative points at the end of round 4?

- ☐ Misty
- ☒ Brock ✓
- ☐ Tracy
- ☐ Gary

Video Explanation:

▼

Refer to the data below and answer the questions that follow.

5 gamers Ash, Misty, Brock, Tracy and Gary participate in a ‘PokemonGo’ competition to catch 25 Pokemons – 5 each of Abra, Bayleef, Charizard, Dodrio and Elekid. Each gamer catches exactly one Pokemon by the end of every 3 minute round. The Pokemon caught by all gamers at the end of a particular round were all distinct. No person catches more than one Pokemon of a particular type. Further,

1. Tracy’s first Pokemon was Elekid while Ash’s first Pokemon was Abra.
2. Charizard was Tracy’s second but Ash’s fourth Pokemon.
3. Brock’s second Pokemon was Bayleef while Abra was the last Pokemon that he caught.
4. Misty caught a Dodrio at the end of the third round.
5. Gary caught a Bayleef and a Charizard only after Brock caught them.

Let each of 5 Pokemons be denoted by the first letter of their name; A, B, C, D and E. By using conditions 1, 2, 3, and 4 we get the following table:

| | Round I | Round II | Round III | Round IV | Round V |
|-------|---------|----------|-----------|----------|---------|
| Tracy | E | C | | | |
| Ash | A | | | C | |
| Brock | | B | | | A |
| Misty | | | D | | |
| Gary | | | | | |

Now using the condition 5; Gary definitely did not catch B and C in round I and since each gamer caught different Pokemon in each round, Gary caught D in round I, Brock caught C in round I and Misty caught B in round I.

| | Round I | Round II | Round III | Round IV | Round V |
|-------|---------|----------|-----------|----------|---------|
| Tracy | E | C | | | |
| Ash | A | | | C | |
| Brock | C | B | | | A |
| Misty | B | | D | | |
| Gary | D | | | | |

Now Brock must have caught E in round III and D in round IV. In round II D was caught definitely by Ash. Thus, Ash caught B in round III and E in round V.

| | Round I | Round II | Round III | Round IV | Round V |
|-------|---------|----------|-----------|----------|---------|
| Tracy | E | C | | | |
| Ash | A | D | B | C | E |
| Brock | C | B | E | D | A |
| Misty | B | | D | | |
| Gary | D | | | | |

Tracy must have caught A in round III and Gary must have caught C in round III. Thus, Tracy caught B in round IV and D in round V. Misty must have caught C and Gary must have caught B in round V. The final conclusion is as follows:

| | Round I | Round II | Round III | Round IV | Round V |
|-------|---------|----------|-----------|----------|---------|
| Tracy | E | C | A | B | D |
| Ash | A | D | B | C | E |
| Brock | C | B | E | D | A |
| Misty | B | A/E | D | E/A | C |
| Gary | D | E/A | C | A/E | B |

The gamer who caught Pokemon B, C, D and E till the round IV, earned the maximum cumulative points at the end of round IV. Brock caught Pokemons B, C, D and E till the round IV.

Hence, [2].

Correct Answer:

Time taken by you: 271 secs

Avg Time taken by all students: 92 secs

Your Attempt: Correct

% Students got it correct: 77 %

Refer to the data below and answer the questions that follow.

5 gamers Ash, Misty, Brock, Tracy and Gary participate in a ‘PokemonGo’ competition to catch 25 Pokemons – 5 each of Abra, Bayleef, Charizard, Dodrio and Elekid. Each gamer catches exactly one Pokemon by the end of every 3 minute round. The Pokemon caught by all gamers at the end of a particular round were all distinct. No person catches more than one Pokemon of a particular type. Further,

1. Tracy’s first Pokemon was Elekid while Ash’s first Pokemon was Abra.
2. Charizard was Tracy’s second but Ash’s fourth Pokemon.
3. Brock’s second Pokemon was Bayleef while Abra was the last Pokemon that he caught.
4. Misty caught a Dodrio at the end of the third round.
5. Gary caught a Bayleef and a Charizard only after Brock caught them.

- ☐ Abra
- ☒ Bayleef ✓
- ☐ Charizard
- ☐ None of the above

Video Explanation: ▼

Explanation: ▼

Let each of 5 Pokemons be denoted by the first letter of their name; A, B, C, D and E. By using conditions 1, 2, 3, and 4 we get the following table:

| | Round I | Round II | Round III | Round IV | Round V |
|-------|---------|----------|-----------|----------|---------|
| Tracy | E | C | | | |
| Ash | A | | | C | |
| Brock | | B | | | A |
| Misty | | | D | | |
| Gary | | | | | |

Now using the condition 5; Gary definitely did not catch B and C in round I and since each gamer caught different Pokemon in each round, Gary caught D in round I, Brock caught C in round I and Misty caught B in round I.

| | Round I | Round II | Round III | Round IV | Round V |
|-------|---------|----------|-----------|----------|---------|
| Tracy | E | C | | | |
| Ash | A | | | C | |
| Brock | C | B | | | A |
| Misty | B | | D | | |
| Gary | D | | | | |

Now Brock must have caught E in round III and D in round IV. In round II D was caught definitely by Ash. Thus, Ash caught B in round III and E in round V.

| | Round I | Round II | Round III | Round IV | Round V |
|-------|---------|----------|-----------|----------|---------|
| Tracy | E | C | | | |
| Ash | A | D | B | C | E |
| Brock | C | B | E | D | A |
| Misty | B | | D | | |
| Gary | D | | | | |

Tracy must have caught A in round III and Gary must have caught C in round III. Thus, Tracy caught B in round IV and D in round V. Misty must have caught C and Gary must have caught B in round V. The final conclusion is as follows:

| | Round I | Round II | Round III | Round IV | Round V |
|-------|---------|----------|-----------|----------|---------|
| Tracy | E | C | A | B | D |
| Ash | A | D | B | C | E |
| Brock | C | B | E | D | A |
| Misty | B | A/E | D | E/A | C |
| Gary | D | E/A | C | A/E | B |

Bayleef was missing from Gary’s collection at the end of round 4. Hence, [2].

Correct Answer: ▼

Time taken by you: 9 secs

Avg Time taken by all students: 49 secs

Your Attempt: Correct

Refer to the data below and answer the questions that follow.

5 gamers Ash, Misty, Brock, Tracy and Gary participate in a ‘PokemonGo’ competition to catch 25 Pokemons – 5 each of Abra, Bayleef, Charizard, Dodrio and Elekid. Each gamer catches exactly one Pokemon by the end of every 3 minute round. The Pokemon caught by all gamers at the end of a particular round were all distinct. No person catches more than one Pokemon of a particular type. Further,

1.

Tracy’s first Pokemon was Elekid while Ash’s first Pokemon was Abra.
2.

Charizard was Tracy’s second but Ash’s fourth Pokemon.
3.

Brock’s second Pokemon was Bayleef while Abra was the last Pokemon that he caught.
4.

Misty caught a Dodrio at the end of the third round.
5.

Gary caught a Bayleef and a Charizard only after Brock caught them.

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