Seating Arrangement Questions for IBPS PO Mains, SBI PO Mains & RBI Grade B Exams.

Set No 45

Directions: Study the following information carefully and answer the questions given beside.

Seven persons Aaron, Sheldon, Grant, Penny, Oliver, Cody and Sophia were participating in a running competition on the sports day. Initially, before the race started they were standing in a row facing north not necessarily in the same order. The distance between each runner was a successive multiple of 7 (integral values).

The distance between Sophia and Penny was half the Distance between Aaron and Cody.
Sheldon and Aaron were 168m apart and either 3 or less than 3 persons were standing in between them.
Sheldon was to the immediate right of Penny.
Penny and Grant were 91m apart.
Oliver was 133m to the left of Cody.
Grant moves for 50 m in South direction, takes a left turn, moves for 105 m, takes a left and moves for 20 m and stops at point R.
Sophia moves for 40 m in South direction, takes a left turn, moves for 70 m, takes a left turn, moves for 10 m and stops at point P.
Referee Walter is standing 77 m west of point R. If he moves 63m towards west and he will be at point Q.

1. How many person(s) sit to the right of Aaron?

A. 1   B. 2   C. 3   D. Either 1 or 2   E. Either 2 or 3

2. If referee start moving towards north and moves for 30m and stops point T. then which of the following statements is/are true about point T?

A. Point T is exactly in the mid of Grant and Oliver.   B. Point T is 35m west from Oliver.
C. Point T is 14m east from Sheldon.   D. Point T is exactly in the mid of Sophia and Oliver.
E. All are true.

3. What is the distance between Aaron and Grant?

A. 126m   B. 119m   C. 133m   D. 105m   E. 98m

4. What is the direction of point Q with respect to Cody?

A. North-East   B. North-West   C. South-East   D. South-West   E. Can't be Determined

5. What is the distance between point P and point R?
A. 140m   B. 154m   C. 161m   D. 168m   E. 175m

Correct Answers:

1	2	3	4	5
A	A	B	D	C

Common Explanations:

Reference:
Sheldon and Aaron were 168m apart and either 3 or less than 3 persons were standing in between them.
Sheldon was to the immediate right of Penny.
Penny and Grant were 91m apart.

Inference:
With the given information we have four possible cases for Sheldon and Aaron. Let's see them one by one:
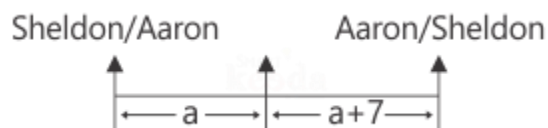
Case 1:
If Sheldon and Aaron were on consecutive positions:
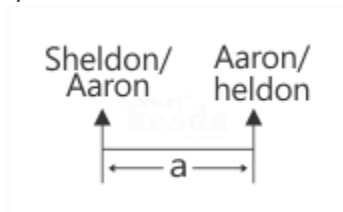
Here, a = 120m

But if Sheldon and Aaron are on consecutive positions and Penny is on the immediate left of Sheldon then the distance between Penny and Grant can never be 91m. Therefore, this case is not possible

Case 2:
If there is only 1 person between Sheldon and Aaron:

Then, a + a + 7= 168m
⇒ 2a + 7 = 168
∴ a = 80.5m

This is not possible as we need all the values to be integral.

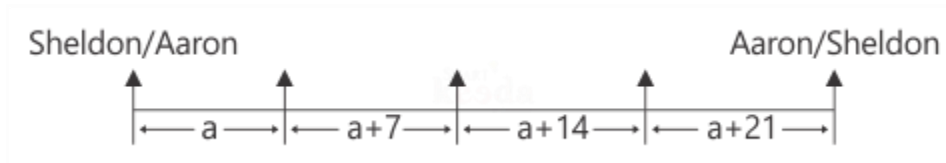**Case 3:**
If there were 2 persons between Sheldon and Aaron:
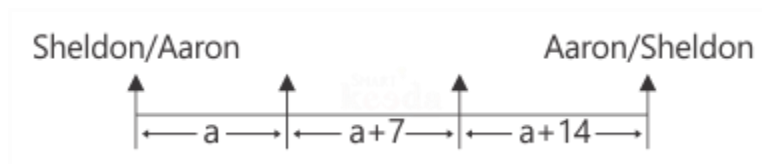
Then, a + a + 7 + a + 14 = 168m
⇒ 3a + 21 = 168m
∴ a = 49m
This can be possible.

And after we use the rest of the information to place Penny and Grant in the row

Case - 3

Penny   Sheldon   Grant   Aaron
        42m   49m   56m   63m
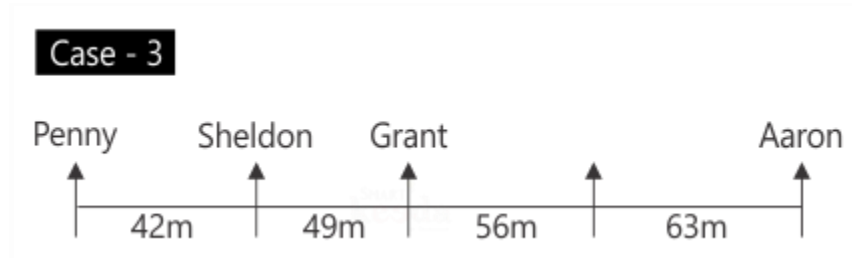
Case 4:
If there were 3 persons between Sheldon and Aaron:

Sheldon/Aaron   Aaron/Sheldon
        a   a+7   a+14   a+21

Then, a + a + 7 + a + 14 + a + 21 = 168m
⇒ 4a + 42 = 168m
∴ a = 31.2m

Again this is not possible as we need all the values to be integral.

Reference:
The distance between Sophia and Penny was half the Distance between Aaron and Cody.
Oliver was 133m to the left of Cody.

Inference:
At this point we can easily place Oliver and Cody on the row.
And now we already know that distance between Aaron and Cody is 70m.
Therefore, we can say that distance between Sophia and Penny is 35m.

Case - 3

Sophia   Penny   Sheldon   Grant   Oliver   Aaron   Cody
    35m   42m   49m   56m   63m   70m
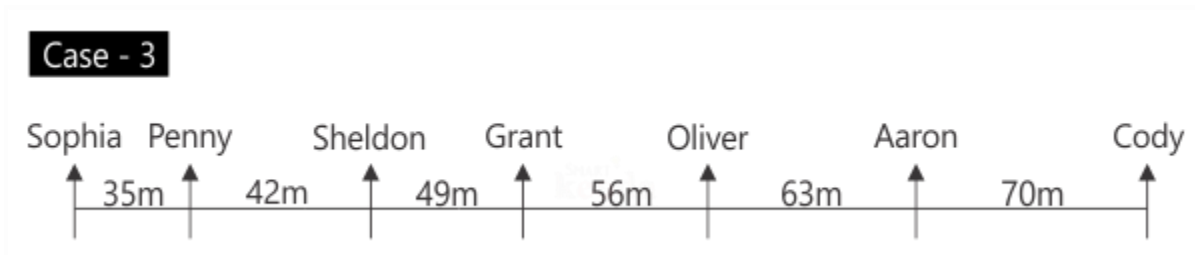
Reference:
Sophia moves for 40 m in South direction, takes a left turn, moves for 70 m, takes a left turn, moves for 10 m and stops at point P.
Grant moves for 50 m in South direction, takes a left turn, moves for 105 m, takes a left and moves for 20 m and stops at point R.

Inference:

Using the given information carefully we can determine the position of points P and R and we can say that both of these points fall in the same line.
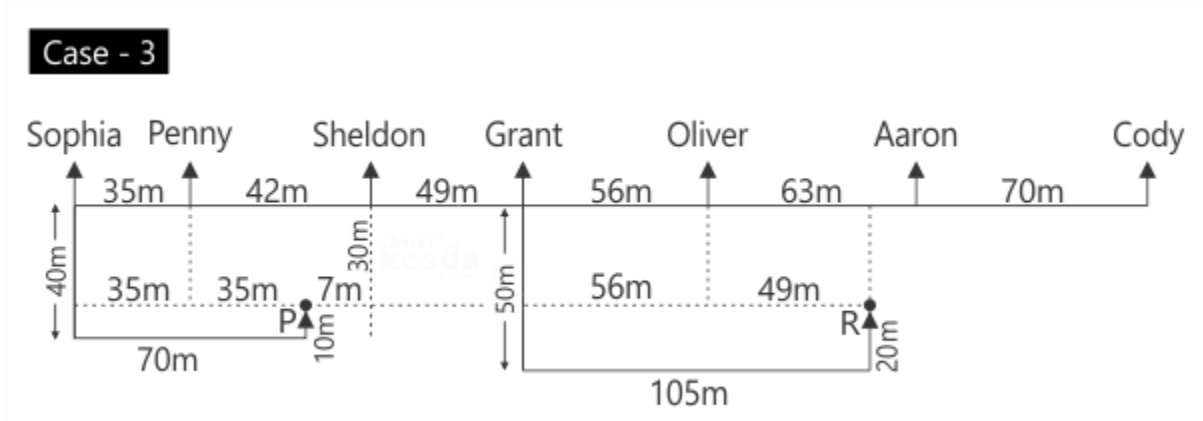
Reference:

Referee Walter is standing 77 m west of point R. If he moves 63m towards west and he will be at point Q.

Inference:

With the given information we can figure out the position of referee Walter and point Q.
The final puzzle is as follows:

Answers :

1.   Following the final solution, we can say that only one person's sit to the right of Aaron.
        Hence the correct answer is option (A).

2.   Following the final solution, we can say that If referee start moving north and moves for 30m and stops
        point T then point T will exactly in the mid of Grant and Oliver.
        Hence the correct answer is option (A).

3.   Following the final solution, we can say that the distance between Aaron and Grant is 119m.
        Hence the correct answer is option (B).

4.   Following the final solution, we can say that point Q is to the south-west of Cody
        Hence the correct answer is option (D).

5.   Following the final solution, we can say that the distance between point P and point R 161m.
        Hence the correct answer is option (C).
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