Order and Ranking

Rule No 1:

To find the total number of persons/things of a single row, when ranks of one person/things is/are given from both sides of the row.

Formula: Total number of persons/things = Rank from Left end + Rank from Right end – 1

Example:

In a row of girls, the position of Radhika is 38th from the left side of the row, and the position from the right side of the row is 19th. Find the total number of girls in that row.

Solution:

Total no. of person= (The position of Pooja from the left end + the position of Pooja from the right end) – 1

Therefore, the total no. of person is = (38 + 19) – 1= 57 – 1 = 56

Hence, the total number of girls in that row is 56.

Rule No. 2:

To find the rank or position of a person/thing from the opposite side, when rank or position from one side and total number of persons/things are given.

Formula: Position of a person from the opposite ends= (Total number of persons of that row – Position of the same person/thing from the given side) + 1

Example:

In a row of 31 persons, the position of Vicky from the left side of the row is 8th. What is the position of Vicky from the right side of that row?

Solution:

The position of Vicky from the right side is = (The total number of persons of that row – Position of Vicky from the left side) +1 = (31-8) + 1 = 24

Rule No. 3:

To find the number of persons/things after or before a person/thing whose rank from another side is given –

Number of persons/things after or before the given person/thing in a row = Total no. of persons/things – Position of the same person/thing from another side

Example:

In a billing line of 32 persons, the position of Hafiz from the front side of the row is 14th. Find the number of persons after Hafiz in that row?

1. 17
2. 16
3. 14
4. 18
5. 13

Ans: 4

Solution:

Number of persons after Hafiz = Total number of persons – Position of Hafiz from the front side

⇒ Number of persons after Hafiz in the row = 32 – 14 = 18

Hence, 18 persons are there after Hafiz in that row.

Rule No. 4:

To find the total number of persons/things in a row, when ranks of two persons/things and number of the persons/things who are sitting between those two persons/things are given.

In, such cases there will be two possible type:-

A. Case of Overlapping:

When the number of persons/things –> (position of a person/thing from the right side + position of another person/thing from the left side) is greater than the total number of persons/things

Number of persons between them = (Sum of positions of two different persons/things from both sides) – (Total number of persons/things) – 2

Example:

In a row of 22 boys. Ronak is 26th from the left side of the row and Shanky is 9th from the right side of the row. Find out the number of persons sitting between them?

Solution:
Number of persons between Ronak and Shanky = (26+9)-22-2= 35-22-2 = 11

Hence, the number of persons sitting between them is 11.

B. Case of not overlapping:

When Total number of persons/things is greater than the (position of one person from the right side /thing + position of another person/thing from the left side).

Number of persons between two persons/articles = Total number of persons/articles – (Sum of positions of two different persons/articles from both sides)

Example:
In a row of 85 persons. Manya is 24th from the left side of the row and Rashi is 19th from the right side of the row. Find out the number of persons sitting between them?

Solution:
Number of persons between Manya and Rashi = 85 – (24+19) = 85-43 = 42

Hence, there are 42 persons between Manya and Rashi.

Rule No. 5:

When in a single row, the positions of two persons are given and their positions are interchanged and after interchanging the position of first person is given from the same side as before interchanging.

a) To find the total number of persons of that row:

Formula:
Total Number of persons = Sum of the particular positions of a place (different person) from both sides – 1

Example:
In a row of persons, Ashish is 11th from the left and Salman is 20th from the right. If they interchange their positions, then Ashish becomes 17th from the left. Find out the total number of persons of that row.

Solution:
Total Number of persons = Sum of the particular positions of a place (different person) from both sides – 1
Positions of Salman before change + position of Ashish after change – 1

20 + 17 – 1 = 36

Hence, there are 36 persons.

b) To find the new position of the second person from the same side as before interchanging:

Formula:
The position of the second person from the same side as before interchanging = The position of the second person from the same side before interchanging + (position of the first person after interchanging – position of the first person before interchanging from the same side

Example:
In a row of persons, Ashish is 11th from the left and Salman is 20th from the right. If they interchange their positions, then Ashish becomes 17th from the left. Then, what will be the new position of Salman from the right end?

Total no of persons in a row = Position from the right end + Position from the left end – 1

= 20 + 17 – 1 = 35

Salman's position from right end = Total persons – Ashish's position from the left end + 1

= 36 – 10 + 1 = 27

Hence, in the new arrangement, the position of Salman is 27th from the right end.

c) To find the number of persons between that two persons:

Formula:
Number of persons between two persons = Difference in the positions of a person (same person) whose position from same side before and after interchanging is given – 1

Example:
In a row, Avni is 14th from the left end and Tanmay is 13th from the right end of the row. If they interchanged their positions Avni becomes 19th from the left end. Find the number of persons between them.

Solution:
Number of persons between Avni & Tanmay = (Position of Avni from left after interchanging– Position of Avni from left before interchanging) – 1

⇒ Number of persons between Avni & Tanmay is = (19 – 14) – 1 = 5 – 1 = 4

Rule No. 6:

In a row, if the positions of two different persons are given from opposite sides of the row and a third person is sitting exactly in the middle of that two person. If total number of persons is to be calculated, then there are will be two conditions –

a) When the position of the third person is to the left side of that person whose position was given from the right side. Or when the position of the third person is to the right side of that person whose position was given from the left side.

b) When the position of the third person is to the left side of that person whose position was given from the left side. Or when the position of the third person is to the right side of that person whose position was given from the right side.

Example:

In a row there are some persons, the position of Nishant from the left side of the row is 16th and position of Shikha from the right side of the row is 11th. If Mahesh is sitting just in the middle of Nishant and Shikha and there are two persons between Mahesh and Nishant. Find the total number of persons in the row?

Solution:

A) If Mahesh is to the left of Shikha, then the number of persons in the row will be:

Shortcut Rules:

⇒ Position of 1st person+ Position of 2nd person + twice of the number of people between the third person and any of them (which was given) + 1

⇒ Position of Nishant + Position of Shikha + twice of the number of people between the third person and any of them (which was given) + 1

⇒ $16 + 11 + (2 \times 2) + 1 = 32$

B) If Mahesh is to the right of Shikha, then the number of persons in the row will be:

Shortcut Rules:

⇒ Position of 1st person+ Position of 2nd person + twice of the number of people between the third person and any of them (which was given) – 3

⇒ Position of Nishant + Position of Shikha – twice of the number of people between the third person and any of them (which was given) – 3

⇒ $16 + 11 – (2 \times 2) – 3 = 20$

Tips and Tricks:

- Total number of persons/things = Rank from Left end of a particular person/things + Rank of that particular person/things from the Right end – 1
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- Position of a person from the opposite ends = (Total number of persons of that row – Position of the same person/thing from the given side) + 1
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- Number of persons/things after or before the given person/thing in a row = Total no. of persons/things – Position of the same person/thing from another side

- When the number of persons/things –> (position of a person/thing from the right side + position of another person/thing from the left side) is greater than the total number of persons/things **(This is a case of overlapping)**. Then the formula will be: Number of persons between them = (Sum of positions of two different persons/things from both sides) – (Total number of persons/things) – 2
- When total number of persons/things is greater than the (position of one person from the right side /thing + position of another person/thing from the left side) **(This is a case of not-overlapping)**. Then the formula will be: Number of persons between two persons/articles = Total number of persons/articles – (Sum of positions of two different persons/articles from both sides)

- In a row, if the positions of two different persons are given from opposite sides of the row and a third person is sitting exactly in the middle of that two person. If total number of persons is to be calculated, then there are will be two conditions –

1. When the position of the third person is to the left side of that person whose position was given from the right side. Or when the position of the third person is to the right side of that person whose position was given from the left side.
2. When the position of the third person is to the left side of that person whose position was given from the left side. Or when the position of the third person is to the right side of that person whose position was given from the right side.