GATE
ALL BRANCHES

General Aptitude
Analytical Reasoning

By- Amulya Ratan Sir

Recap of Previous Lecture

Topic Directions & Coding Decoding

Topics to be Covered

Topic-1 Ranking & Arrangements

[MCQ]

#Q. If in a certain language PRIVATE is coded as 1234567 and RISK is coded as 2398, how is RIVETS coded in that language?

A. 687543

B. 496321

C. 246598

D. 234769

PRIVATE ⟹ 1234567

RISK ⟹ 2398

RIVETS ⟶ 234769

[MCQ]

#Q. If light means red, red means green, green means white, white means yellow. What is the colour of blood?

Assignment

A light

B blue

C red

D yellow

#Q. A is standing at P. He walks 10 meters towards the south; then he walks 20 meters towards the west; then he walks 10 meters towards the south; then he walks 20 meters towards the North and reaches Q. What is the straight distance between P and Q in meters?

$S_{10} \quad W_{20} \quad S_{10} \quad N_{20}$

$H \Rightarrow 20 \; (\text{West})$

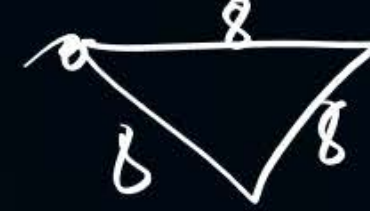$V \Rightarrow 0$

$= \sqrt{20^2} = 20 \; \text{meters}$

#Q. Sumit walks 8 km east, turns South-West and walks another 8km. He again takes a turn towards North-West and walks another 8km. In which direction from starting point is he standing now?

Assignment

West

#Q. A walks 10 metres towards East and then 10 metres to his right, then every time turning to his left, he walks 5.15 and 15 metres respectively. How far is he now from his starting point?

A   16.55

B   6.965

C   15.95

D   15.0

E_{10} S_{10} $E_{5.15}$ N_{15}

$V \Rightarrow 5 \ (\text{North})$

$H \Rightarrow (15.15) \ (\text{East})$

$= \sqrt{(15.15)^2 + 5^2}$
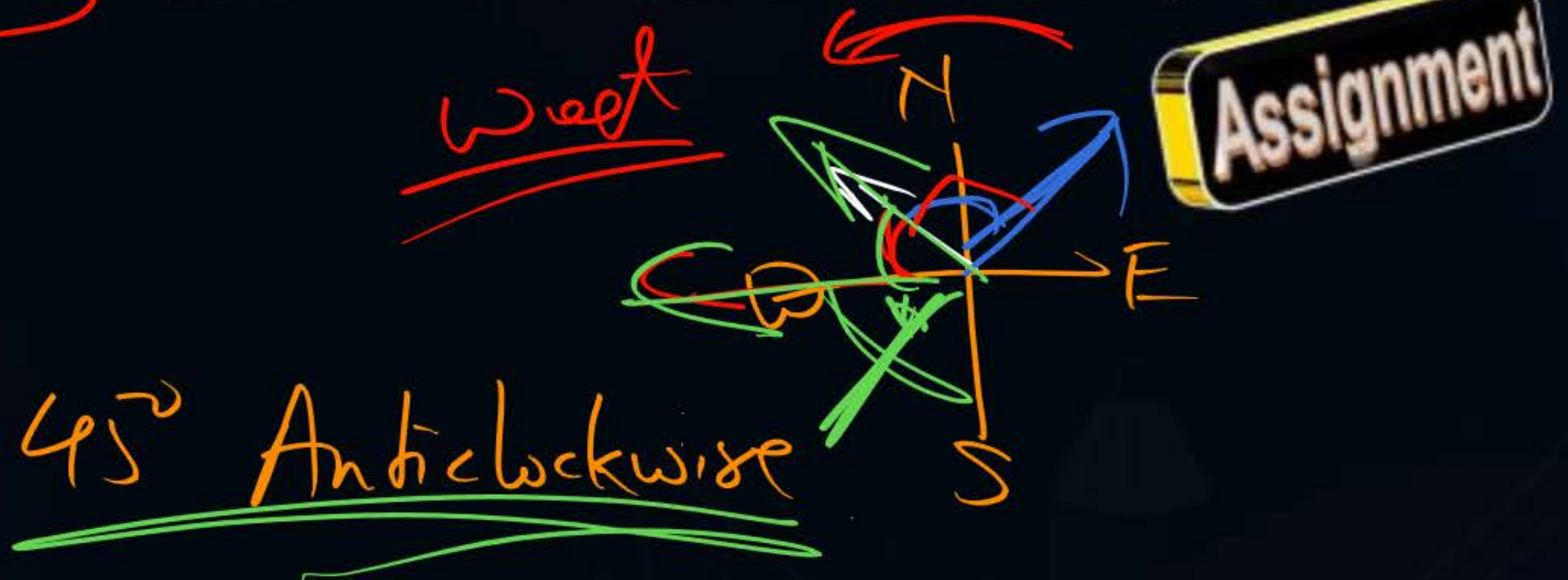
$= \sqrt{229.5 + 25}$

$= \sqrt{254.5}$

$= 15.9$

[MCQ]

#Q. A man is facing North-West. He turns 90° in the clock wise direction, then 135° in the anticlockwise direction which direction is he facing now?

West

45° Anticlockwise

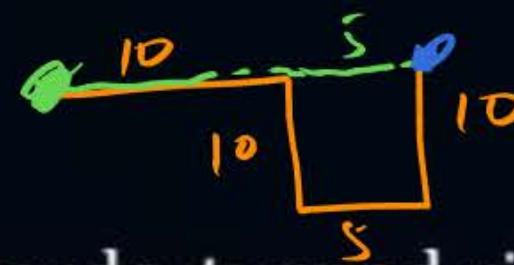**A** North

B South-east

C West

D South-west

#Q. One day, Ravi left home and cycled 10 km Southwards, turned right and cycled 5 km and turned right and cycled 10 km and turned left and cycled 10 km. How many kilometers will he have to cycle to reach his home straight?
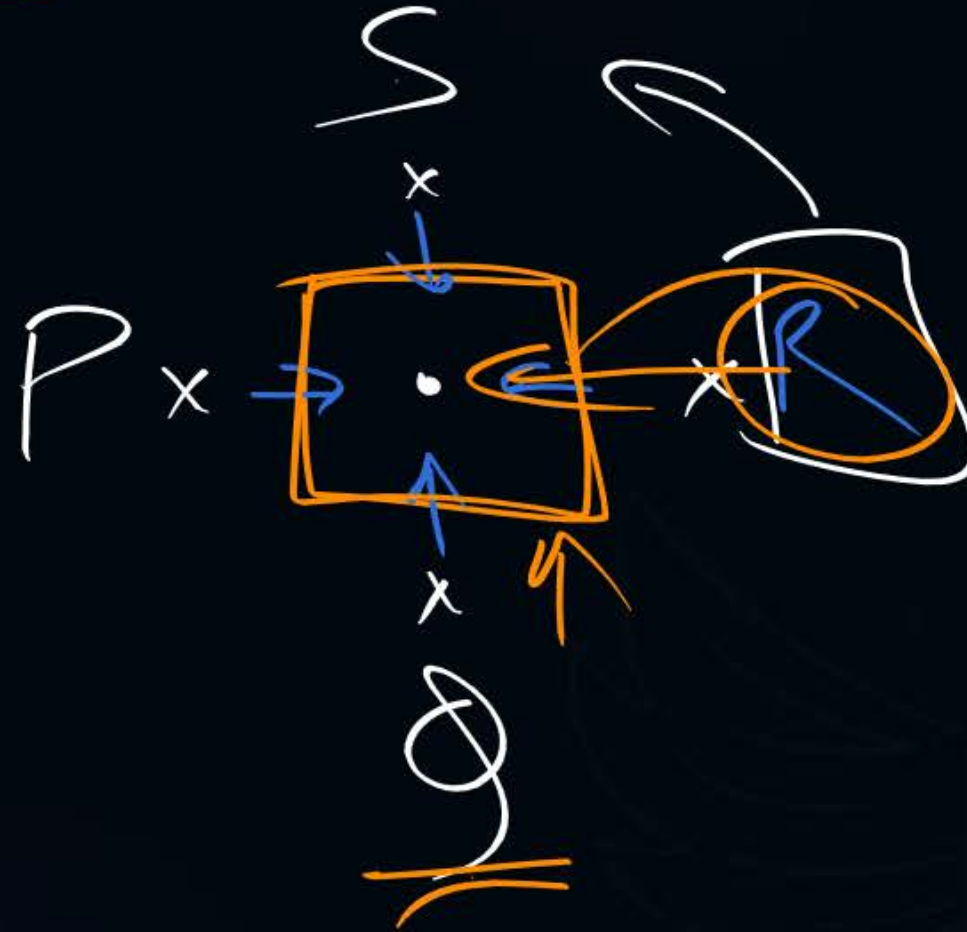
A. 5 km

B. 15 km

C. 12 km

D. None of these

#Q. P, Q, R and S are playing a game of carom. P,R and S,Q are partners. S is to the right of R, who is facing West. Then, Q is facing?

A North

B South

C East

D Can't be determined

#Q.   One evening before sunset, two friends Sumit and Mohit were talking to each other face to face. If Mohit's shadow was exactly to his right side, which directions was Sumit facing?
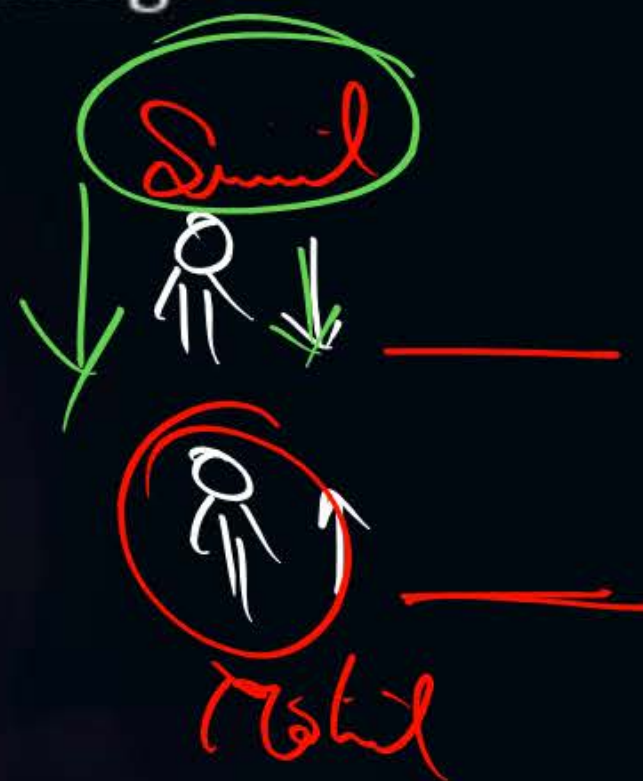
Assignment

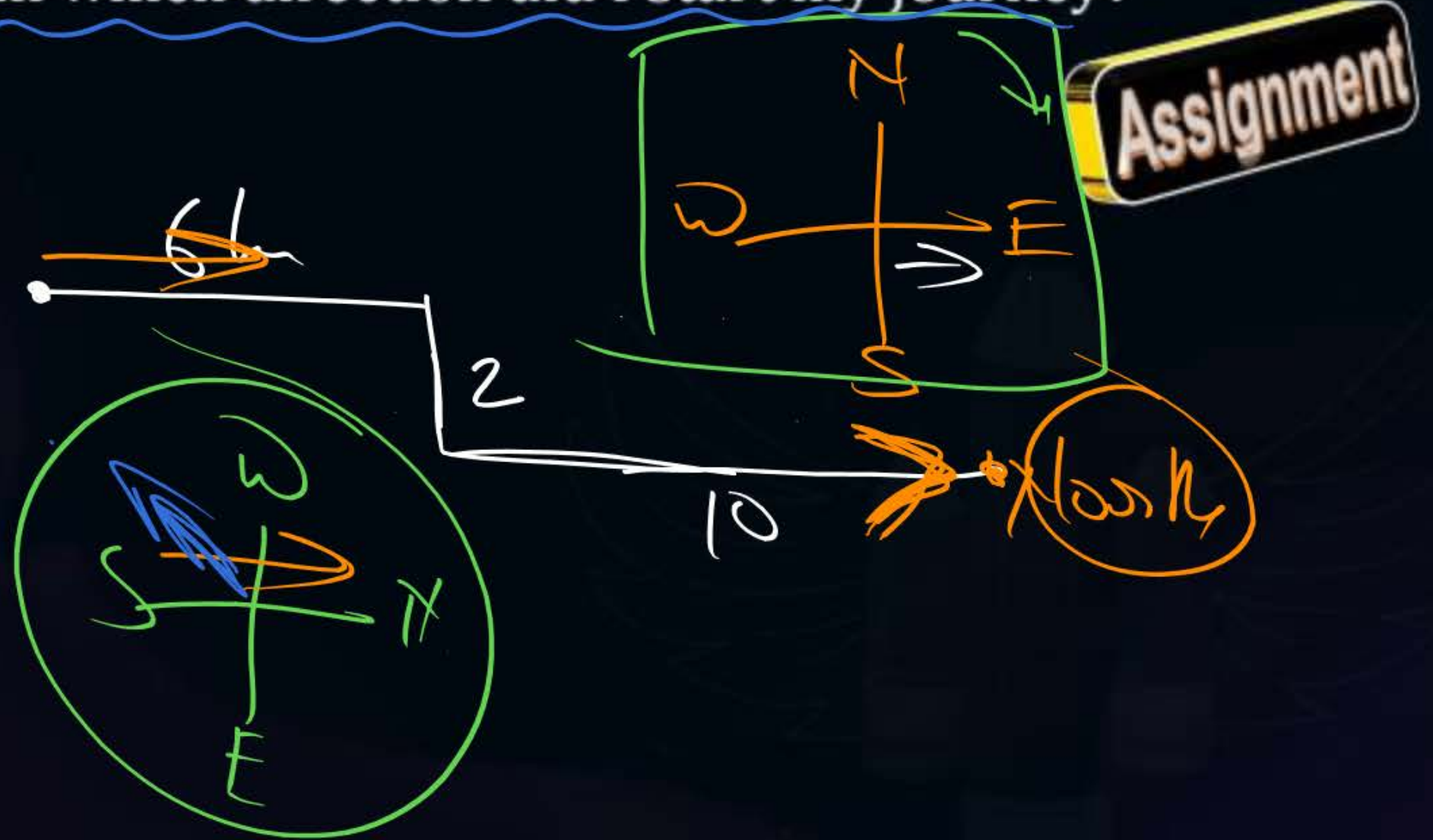A   East

B   North

C   West

D   South

#Q. After walking 6 km, I turned right and covered a distance of 2 km, then turned left and covered a distance of 10 km. In the end, I was moving towards the North. From which direction did I start my journey?

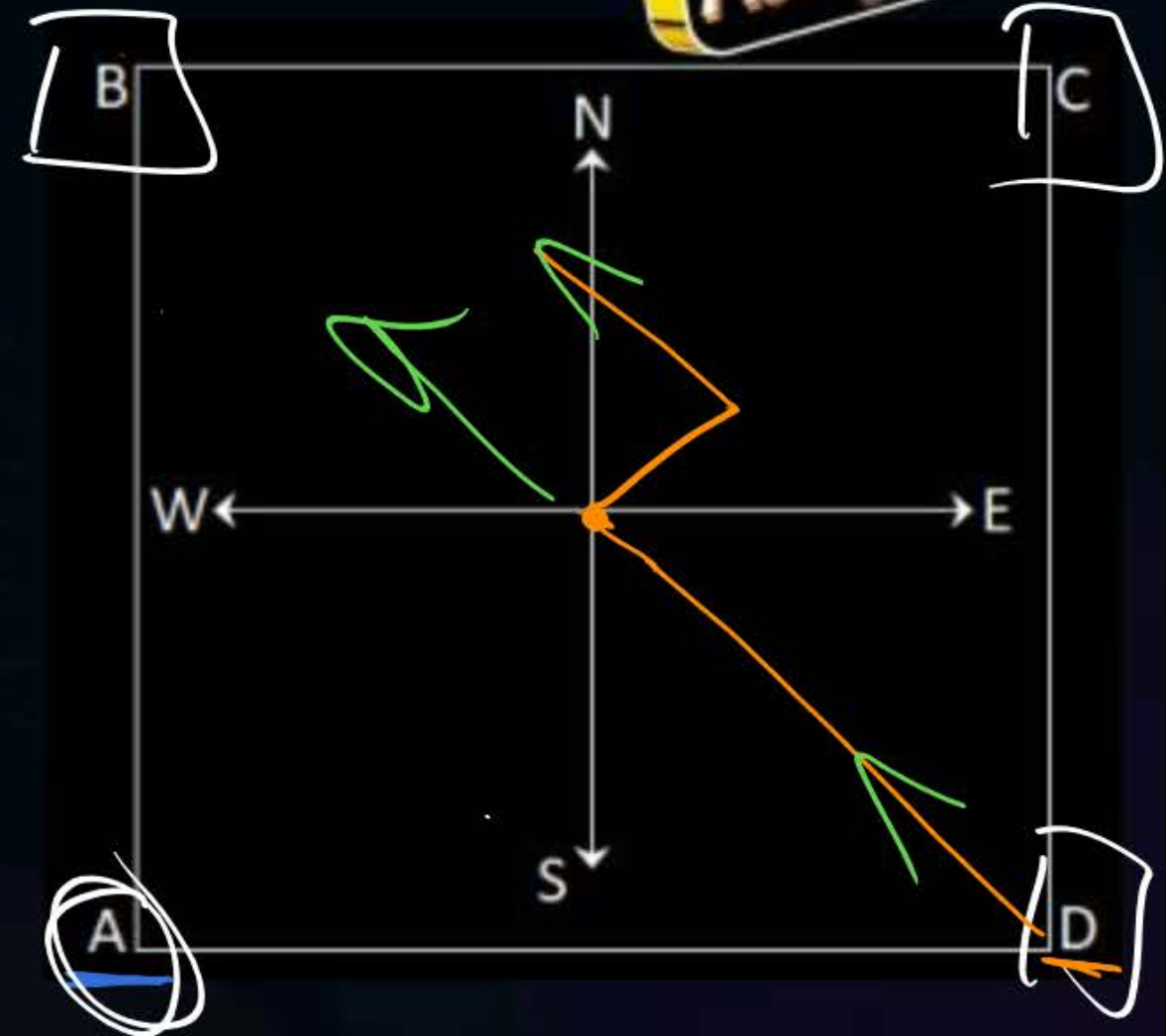**A** North

B North-west

C East

D None of these

#Q. A, B, C and D are standing on four corners of a square piece of plot as shown in the given figure. From the original position, D starts crossing the field diagonally. After walking half the distance he turns right, walks some distance and turns left. Which direction is D facing now?

Assignment

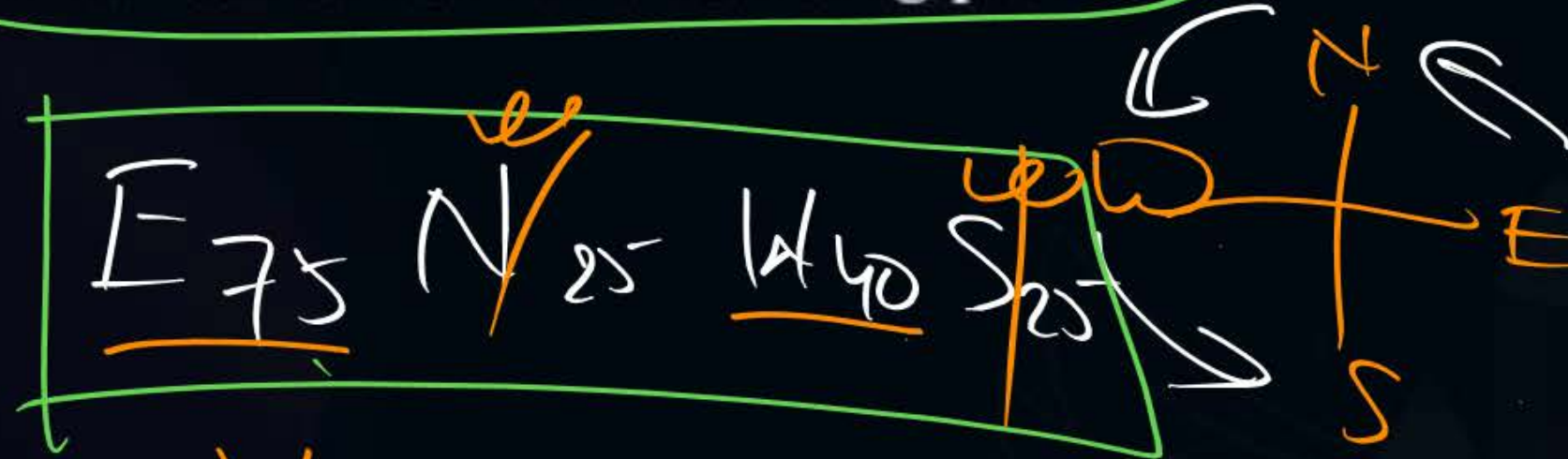**A** South-east

B North-west

C South-west

D South

#Q. Vikas starts walking straight towards east. After walking 75 meters, he turns to the left and walks 25 meters straight. Again, he turns to left walks a distance of 40 meters straight, again he turns to left and walks a distance of 25 meters. How far is he from the starting point?

Assignment

$$\begin{array}{r} 75 \\ 40 \\ \hline -35 \\ \hline 35 \end{array}$$

E_{75} N_{25} W_{40} S_{25}

$V \Rightarrow 0$

$H \Rightarrow 35\,m\,(East)$

Ranking & Arrangements

$$L.P = No. \text{ of } P - R.P + 1$$

$$= \boxed{9} - 6 + 1$$

$$\boxed{3 + 1} \text{ Left}^{th}$$

Left 4th

Soham

6th Right

No. of People

$$= L.P + R.P - 1$$

$$= 4 + 6 - 1 = \boxed{9}$$

#Q. In a row of trees, one tree is the 9th from either end of the row. How many trees are there in the row?

A 16
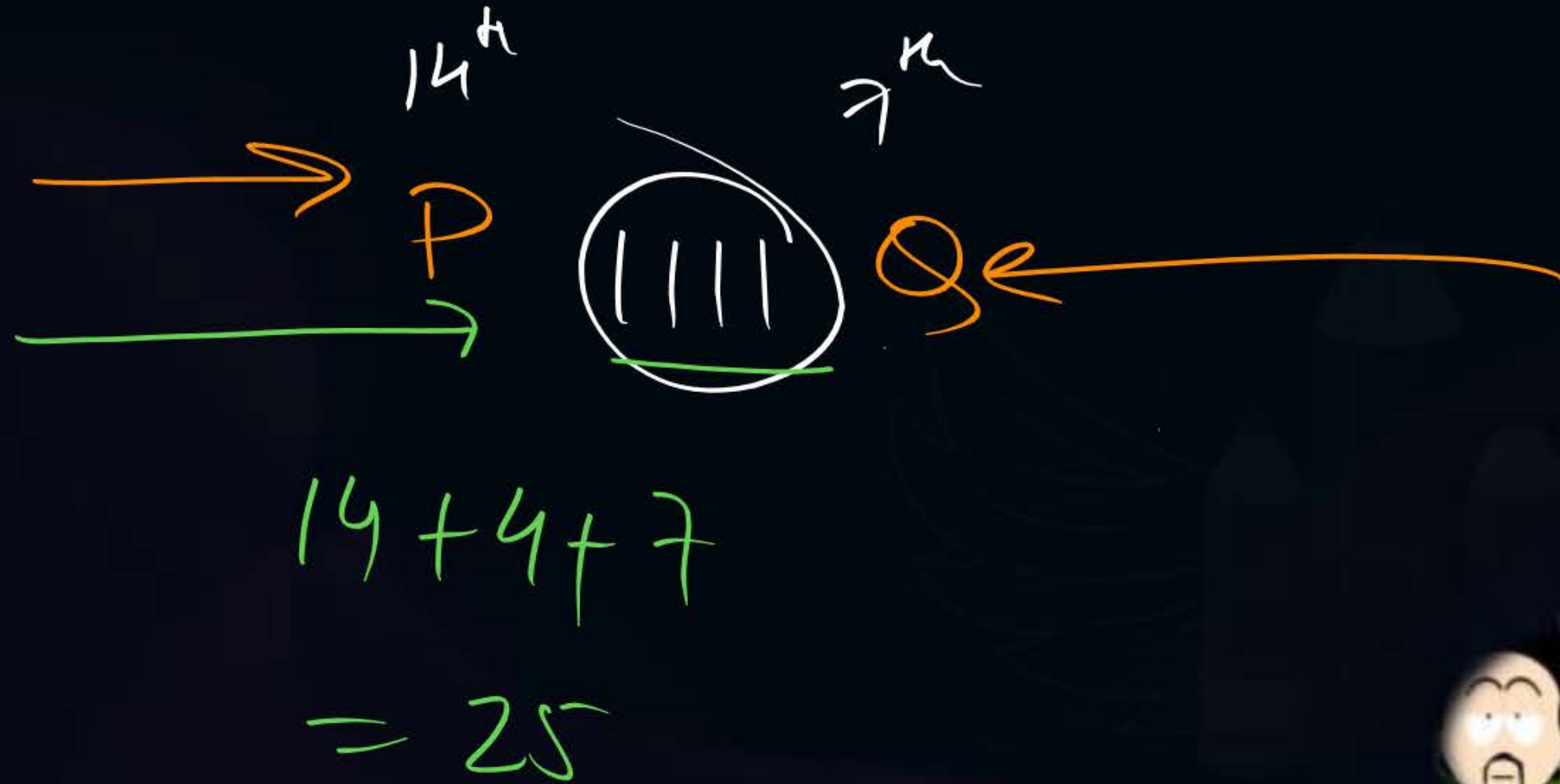
B 17

C 18

D 19

$$\text{No. of Trees} = 9 + 9 - 1 = 17$$

#Q. Some boys are sitting in a row, P is sitting 14th from the left and Q is seventh from the right. If there are four boys between P and Q, how many boys are there in the row?

A. 21

B. 25

C. 19

D. 23

14th

7th

P | | | | | Q

$14 + 4 + 7$

$= 25$

#Q. In a row of girls, Kalpana who is 10th from the left and Preeti who is 9th from the right exchange their seats. If Kalpana becomes 15th from the left, then how many girls are there in a row?

A 16

B 23
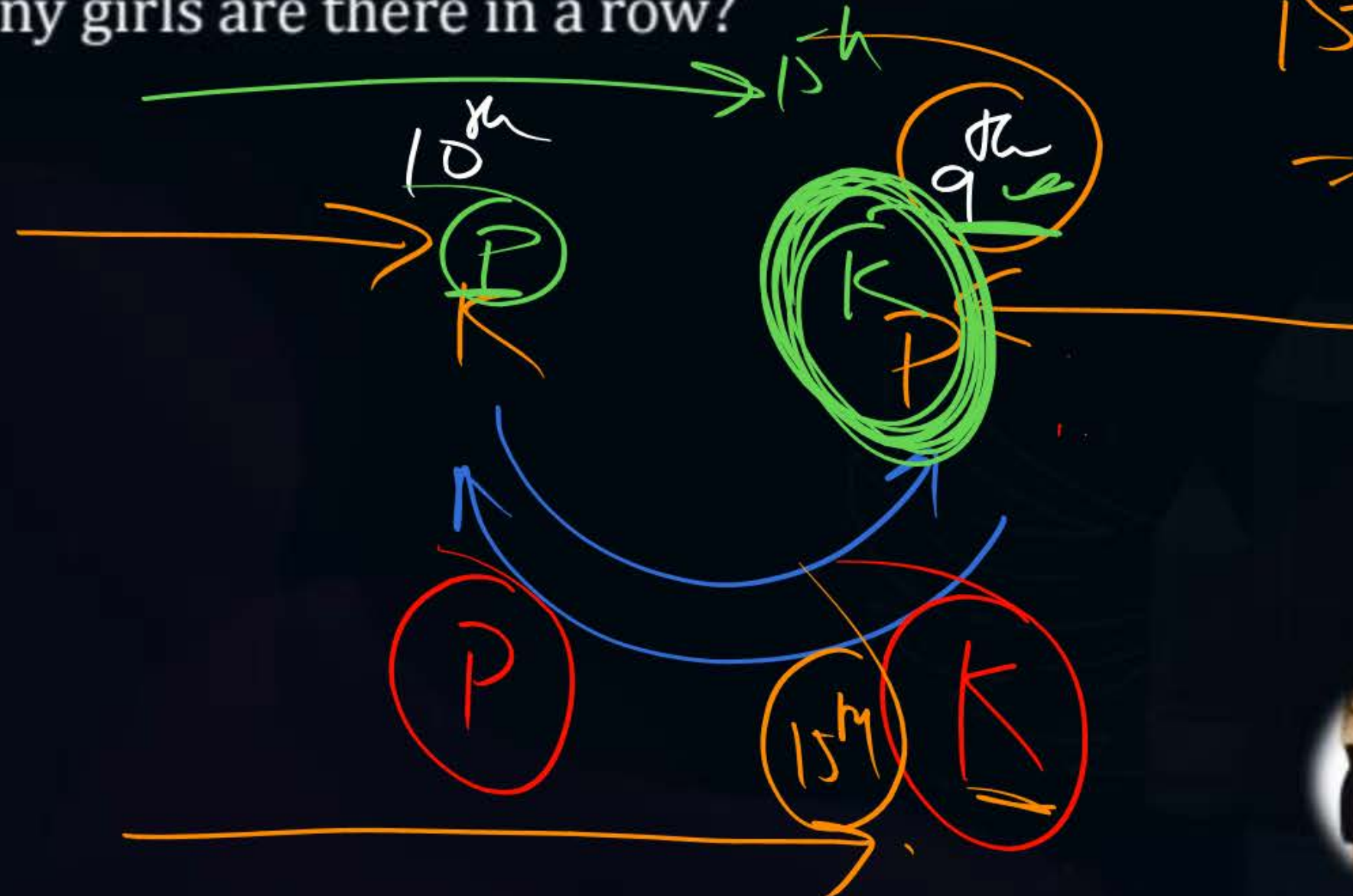
C 25

D 32

15t 9 − 1

= 23

[MCQ]

$$S = x \qquad A = x + 7$$

#Q. Suresh is 7 ranks ahead of Ashok in the class of 39. If Ashok's rank is 17th from the last, what is Suresh's rank from the start?

- **A** 14
- **B** 24
- **C** 16
- **D** 15

$$\text{Ashok rank} = 39 - 17 + 1$$
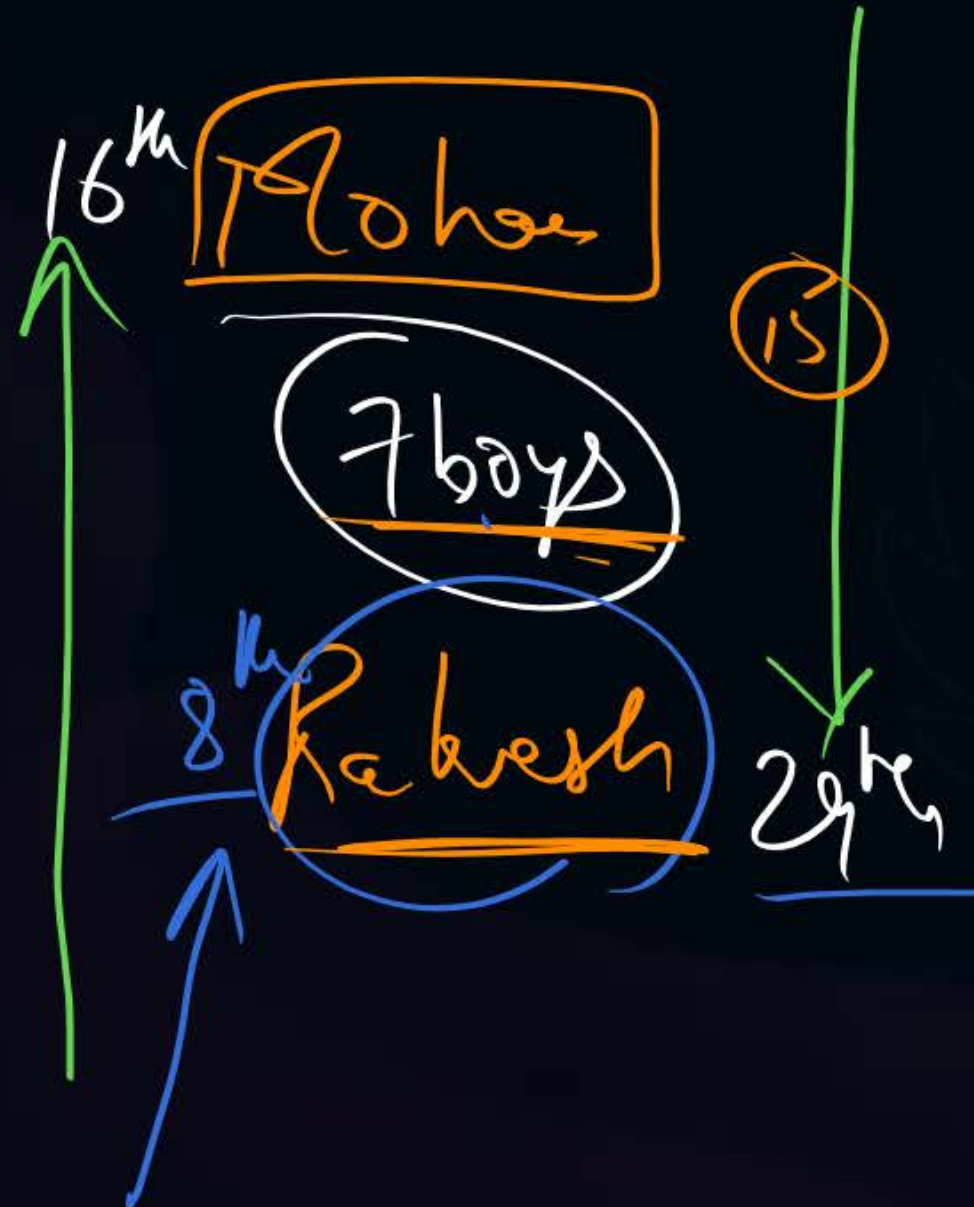$$= 23^{rd}$$

$$23 = x + 7$$
$$x = 16^{th}$$

#Q. In a certain class, Rakesh is 29th from the top and Mohan is 16th from the bottom in the alphabetical arrangements of names. If they have 7 boys between them what is the number of students in the class?

A. 52

B. 45

C. 36

D. 35

$$21 + 16 - 1$$
$$= 36$$

$$8 + 29 - 1 = 36$$

16th Mohan

15

7 boys

8th Rakesh

29th

#Q. In a row of children Moni is ninth from the left and Toni is thirteenth from the right. When they exchange places, Moni will be seventeenth from the left. Which of the following will be the new position of Toni from the right?

A 20th

B 7th

C 9th

D 21st

$$29 - 9 + 1$$

$$13^{th}$$

$$= 21^{st}$$

$$9^{th}$$

Moni

Toni

$$\text{No. of } P = 13 + 17 - 1$$

$$= 29$$

Toni

Toni

$$17^{th}$$

#Q. Rehan ranks seventh in a class of twenty. What is his rank from the last?

Assignment

A 13th

B 8th

C 15th

D 14th

#Q. Of the five villages: 1) Phulwade is smaller than Dhanwade 2) Ambawade is bigger than Khelwade 3) Sonewade is bigger than Dhanwade but is not as big as Khelwade. Which is biggest village?
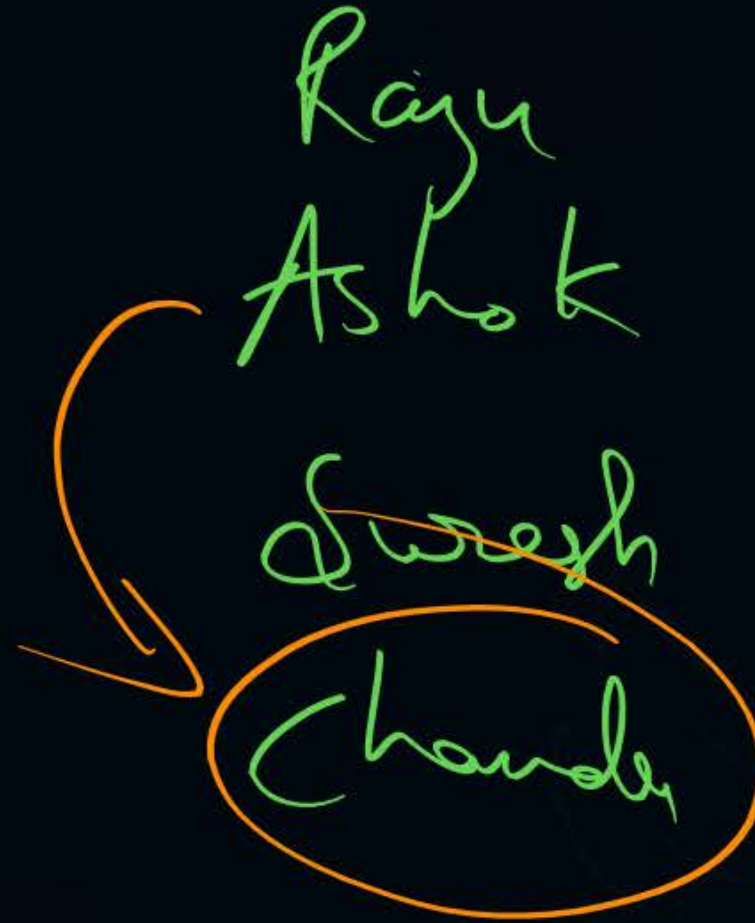
A Ambawade

B Phulwade

C Dhanwade

D Khelwade

#Q. Ashok is taller than Suresh. Raju is taller than Ashok. Chandu is shorter than Suresh, then Chandu is ___

A   taller than Ashok

B   as tall as Suresh

C   taller than Suresh

D   shorter than Ashok

Raju
Ashok
Suresh
Chandu

#Q.   Four girls are swimming in a stream.

➢ Harjeet is further ahead of Manjula
➢ Neena is behind Manjula
➢ Ruchi is between Manjula and Neena.
       Who is second from the last?

A   Neena

B   Manjula

C   Harjeet

D   Ruchi

Assignment

#Q. Five poles are standing in a row. M is on the left of N, O is on the right of P, which is on the right of N. If L is on the left of M, which pole is in center?

Assignment

A L

B M

C N

D O

[MCQ]

#Q.   Six families A, B, C, D, E and F are living in houses in a row. B has F and D as neighbours, E has A and C as neighbours. A does not live next to D. Who are F's next door neighbours?

Assignment

A   B and E

B   B and C

C   B and D

D   Can't be determined

#Q. Sudha is taller than Pushpa but shorter than Malati. Geeta is shorter than Vinu and Vinu is not as tall as Pushpa. Who should be in the middle if they stand in a row according to height?

Assignment

A Pushpa

B Malati

C Sudha

D Geeta

#Q. Priti scored more than Rahul. Yamuna scored as much as Divya. Lotika scored less than Manju. Rahul scored more than Yamuna. Manju scored less than Divya. Who scored the lowest?

Assignment

A Yamuna

B Manju

C Lotika

D Rahul

[MCQ]

#Q. P, Q, R, S, and T are sitting in a row. Q is between P and T. To find out who among them is in the middle, which of the following information given in the statements A and B is/are sufficient?

Assignment

1. P is left of Q and right of S
2. R is at the right end

A   Only {2) is sufficient

B   Only {1} is sufficient

C   Either {1} or {2} is sufficient

D   Both {1} and {2} together are needed

#Q. Five boys took part in a race. Ronit finished before Mohit but behind Gopal. Abbas finished before Sailesh but behind Mohit. Who won the race?

Assignment

A Ronit

B Gopal

C Mohit

D Abbas

#Q. In a photograph Shyam is to the left of Madan. Mary is to the right of George, Karim is in between Shyam and Mary. Who is at the corner?

Assignment

A Shyam

B Mary

C George

D Karim

#Q. Raju and Manoj are ranked 14 and 15 respectively from the top in a class of 30 students. What will be their respective ranks from the bottom.

Assignment

A 15th and 16th

B 16th and 15th

C 17th and 16th

D 18th and 17th

Topic — Ranking & Arrangements

THANK - YOU