Directions Questions For SSC MTS

Instructions
For the following questions answer them individually

Question 1

A shopper in a mart loads his trolley and walks 30 m through an alley which is going South, then he turns to his right and walks 10 m, then he turns North and walks another 10 m, then he turns West and walks 45 m and then he turns North and walks 20 m. Where is he now with reference to his starting position?

A 35 m West

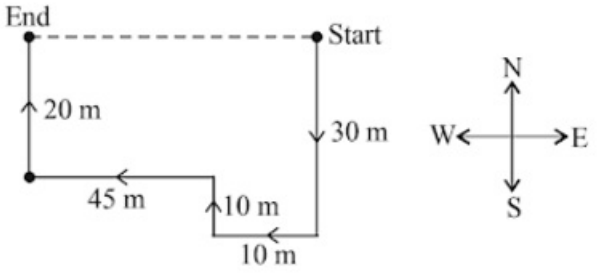
B 55 m West

C 35 m East

D 55 m East

Answer: B

Explanation:
Let the shopper in starts from the starting point and walks 30 m through an alley which is going South, then he turns to his right and walks 10 m towards west, then he turns North and walks another 10 m, then he turns West and walks 45 m and finally he turns North and walks 20 m.



=> Distance = $10 + 45 = 55$ m

$\therefore$ He is now **55 m west** with reference to his starting position.

=> Ans - (B)

Question 2

Six boys are sitting in a row facing south. Gaurav is second to the right of Akash who is at one of the end. Prem is at fourth position to the left of Raman. Jatin and Nitin sit together. How many boys are sitting to the left of Nitin?

A 4

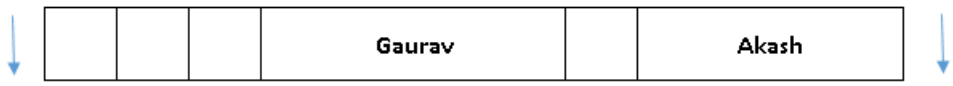
B 2

C 3

D Cannot be determined

Answer: D

Explanation:
All of them are facing south, and Gaurav is second to the right of Akash who is at one of the end, => Akash is at the left end (facing south).



Prem is at fourth position to the left of Raman, => Raman is at the rightmost end.

Raman			Gaurav	Prem	Akash

Jatin and Nitin sit together, which is quite clear but any of them can sit at second or third place.

Thus, final arrangement is :

Raman	Jatin/Nitin	Nitin/Jatin	Gaurav	Prem	Akash

∴ We cannot determine as to how many boys are sitting to the left of Nitin.

=> Ans - (D)

Question 3

A street vendor pushes his cart 2 km South, then he turns East and walks 2.5 km, then he turns North and walks 1 km, then he turns to his left and walks 2.5 km. Where is he with respect to his starting point?

A 3 km South

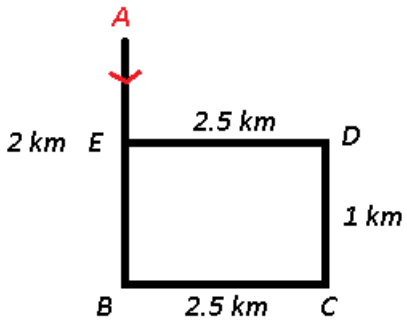
B 1 km North

C 3 km North

D 1 km South

Answer: D

Explanation:
Let the street vendor pushes his cart from point A for 2 km South to reach B, then he turns East and walks 2.5 km to point C, then he turns North and walks 1 km to reach D, finally he turns to his left and walks 2.5 km towards west to reach E.



=> AE = $2 - 1 = 1$ km

∴ He is **1 km south** with respect to his starting point.

=> Ans - (D)

Question 4

A student cycles 2 km North, then turns West and cycles 2.5 km, then turns South and cycles 2 km, then turns to his left and cycles 4.5 km. Where is he now with respect to the starting position?

A 7 km East

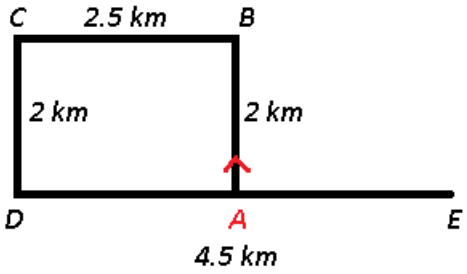
B 2 km West

C 7 km West

D 2 km East

Answer: D

Explanation:
Let the student starts from point A and cycles 2 km North to reach B, then turns West and cycles 2.5 km to point C, then turns South and cycles 2 km, then turns to his left and cycles 4.5 km towards east to stop at point E.



=> AE = $4.5 - 2.5 = 2$ km

∴ He is **2 km east** with respect to the starting position.

=> Ans - (D)

Question 5

Two aeroplanes start from the same strip. Aeroplane P flies 65 miles North, then turns left flies 45 miles and lands. In the meanwhile aeroplane Q flies 80 miles West, then flies 40 miles South, then turns to its left, flies 35 miles and lands. Where is aeroplane Q with respect to aeroplane P?

A 25 miles South

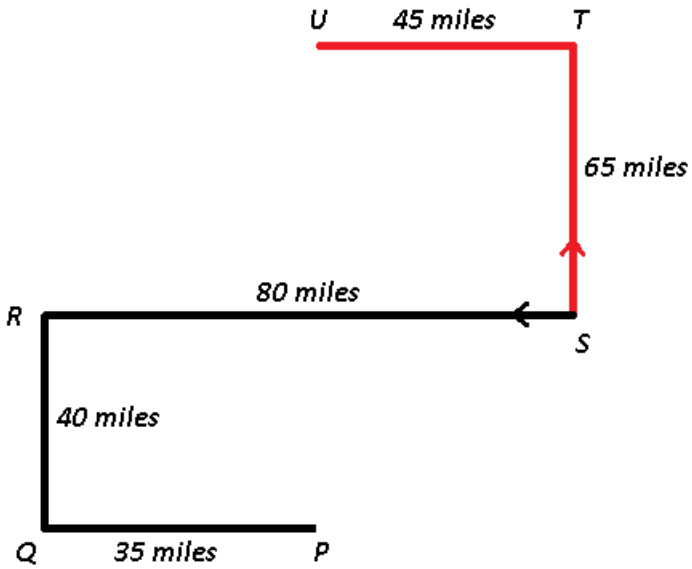
B 105 miles North

C 25 miles North

D 105 miles South

Answer: D

Explanation:
Let the two aeroplanes start from the same strip S. Aeroplane P (red) flies 65 miles North to reach T, then turns left and flies 45 miles and lands at point U. In the meanwhile aeroplane Q (black) flies 80 miles West to R, then flies 40 miles South, and finally turns to its left, flies 35 miles towards east and lands at point P.



=> PU = $40 + 65 = 105$ miles

∴ Aeroplane Q is **105 miles south** with respect to aeroplane P.

=> Ans - (D)

Question 6

Ganga leaves from her college at 10:00 a.m. She starts walking towards north and covers a distance of 14 km. She turns right and walks 20 km to reach point K. She turns left and walk 16 km. She again turns left and walks 10 km. How far (in km) and in which direction is she now from point K?

A 3√33, North-West

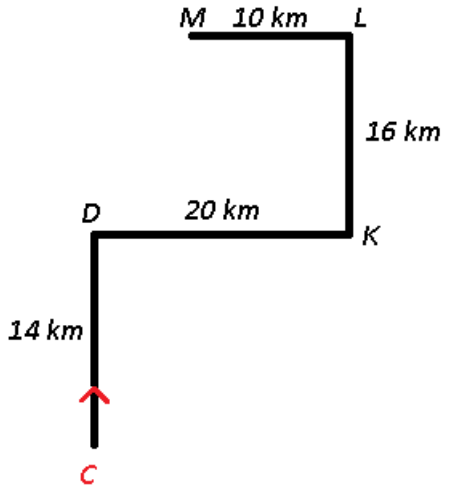
B 2√89, North-West

C 3√33, North-East

D 2√89, North-East

Answer: B

Explanation:
Let Ganga leaves from her college at 10:00 a.m from point C. She starts walking towards north and covers a distance of 14 km to reach D. She turns right and walks 20 km to reach point K. She turns left and walk 16 km towards north. She again turns left and walks 10 km westwards to stop at point M.



=> $(KM)^2 = (KL)^2 + (LM)^2$

=> $(KM)^2 = (10)^2 + (16)^2$

=> $(KM)^2 = 100 + 256 = 356$

=> $KM = \sqrt{356} = 2\sqrt{89}$ km

∴ She is $2\sqrt{89}$ km **north-west** from point K.

=> Ans - (B)

SSC MTS Free Mock Test

Question 7

Two lady cyclists A and B start from the same point. A cycles 3.5 km West, then turns to her right and cycles 7 km. B cycles 1 km East, then turns North and cycles 7 km, then turns to her left and cycles 2 km. Where is B with respect to A now?

A 5.5 km East

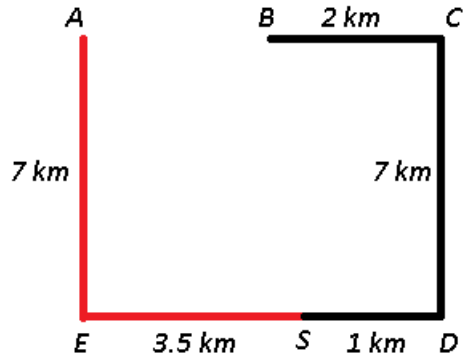
B 2.5 km West

C 2.5 km East

D 5.5 km West

Answer: C

Explanation:
Let the two lady cyclists A and B start from the same point S. A (red) cycles 3.5 km West to reach E, then turns to her right and cycles 7 km northwards. B (black) cycles 1 km East to reach D, then turns North and cycles 7 km to point C, then turns to her left and cycles 2 km towards west.



=> AB = $(3.5 + 1) - 2 = 2.5$ km

∴ B is **2.5 km east** with respect to A now.

=> Ans - (C)

Question 8

Ankit walks 17 km towards east. He turn left and walks 17 km. He turns left again and walks 24 km to reach point A. What is the straight line distance (in km) between the starting point and point A?

A 13√2

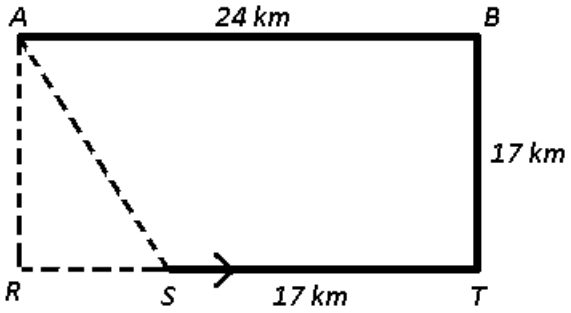
B 14√4

C 4√2

D 11√2

Answer: A

Explanation:
Let Ankit starts from point S walks 17 km towards east to reach T. He turn left and walks 17 km northwards to reach B. He turns left again and walks towards west 24 km to reach point A.



=> $(AS)^2 = (AR)^2 + (RS)^2$

=> $(AS)^2 = (17)^2 + (7)^2$

=> $(AS)^2 = 289 + 49 = 338$

=> $AS = \sqrt{338} = 13\sqrt{2}$ km

∴ Distance between the starting point and point A = $13\sqrt{2}$ **km**

=> Ans - (A)

Question 9

Two horse drawn wagons start from the same farm. Wagon X travels South 4.5 km and then turns right and travels 7.5 km. In the mean while wagon Y travels 9 km North, then 3.5 km West, then 2 km North , then it turns left and travels 4 km. Where is wagon Y with respect to wagon X?

A 6.5 km North

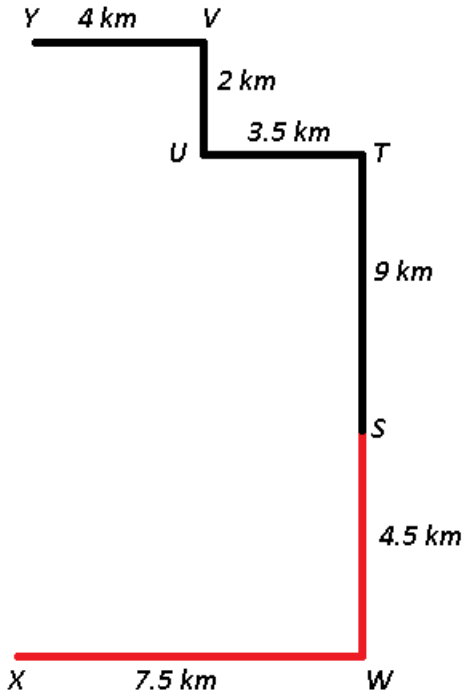
B 15.5 km North

C 15.5 km South

D 6.5 km South

Answer: B

Explanation:
Let the two horse drawn wagons start from the same farm S. Wagon X (red) travels South 4.5 km to W and then turns right and travels 7.5 km towards west. In the mean while wagon Y (black) travels 9 km North, then 3.5 km West to reach U, then 2 km North , finally it turns left and travels 4 km westwards to stop at point Y.



=> XY = $4.5 + 9 + 2 = 15.5$ km

∴ Wagon Y is **15.5 km north** with respect to wagon X.

=> Ans - (B)

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Question 10

From a hospital S, Pritam walked 49 metres to the south, then after turning to right he walked 49 metres. He again turned right and walked another 34 metres and finally turned to right and walked 49 metres. At what distance (in metres) and in which direction is he from the hospital S now?

A 15, North

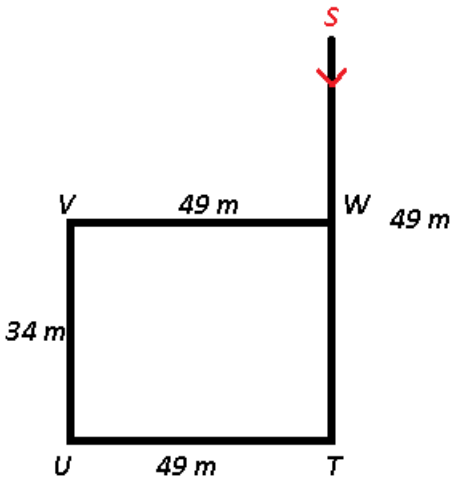
B 22√3, North

C 15, South

D 22√3, South

Answer: C

Explanation:
From a hospital S, Pritam walked 49 metres to the south to T, then after turning to right he walked 49 metres westwards to point U. He again turned right and walked another 34 metres to reach V and finally turned to right and walked 49 metres to stop at point W.



=> SW = $49 - 34 = 15$ km

∴ He is **15 m south** from the hospital S now.

=> Ans - (C)

Question 11

Two cruisers start from the same port. Cruiser A sails 50 miles South, then it turns right and sails 60 miles. In the meanwhile cruiser B sails 105 miles West, then it turns left and sails 50 miles, then it turns West and sails 45 miles. Where is cruiser A with respect to cruiser B?

A 210 miles East

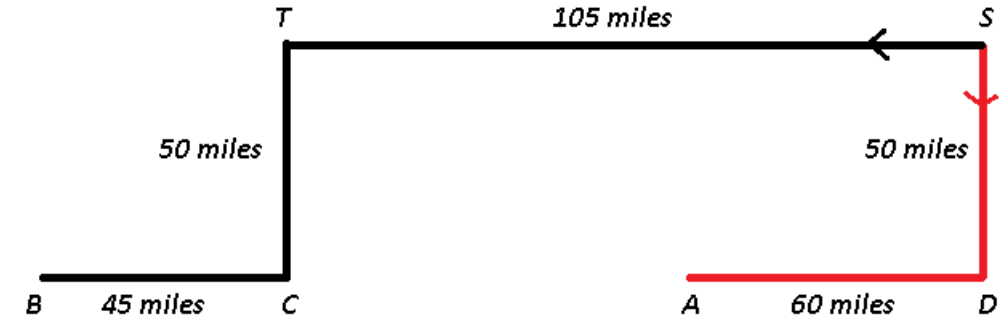
B 90 miles East

C 90 miles West

D 210 miles West

Answer: B

Explanation:
Let the two cruisers start from the same port S. Cruiser A (red) sails 50 miles South to D, then it turns right and sails 60 miles towards west. In the meanwhile cruiser B (black) sails 105 miles West to reach T, then it turns left and sails downwards 50 miles, then it turns West and sails 45 miles to stop finally at B.



=> AB = $(105 - 60) + 45 = 90$ miles

∴ Cruiser A is **90 miles east** with respect to cruiser B.

=> Ans - (B)

Question 12

Chand and Dhyan start from the same point. Chand walks 105 m North, then turns East and walks 55 m, then turns to his right and walks 75 m. At the same time, Dhyan walks 45 m South, then turns to his left and walks 55 m. Where is Chand now with respect to the position of Dhyan?

A 135 m North

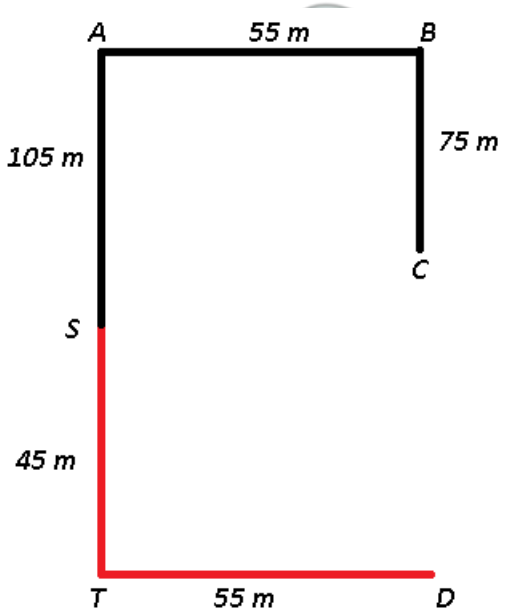
B 75 m North

C 75 m South

D 135 m South

Answer: B

Explanation:
Chand and Dhyan start from the same point S. Chand (black) walks 105 m North to A, then turns East and walks 55 m to reach B, then turns to his right and walks 75 m southwards to point C. At the same time, Dhyan (red) walks 45 m South, then turns to his left and walks 55 m eastwards to reach point D.



=> CD = $(105 - 75) + 45 = 75$ m

∴ Chand is **75 m north** with respect to the position of Dhyan.

=> Ans - (B)

Question 13

A brother and sister leave home for school. The brother goes 0.5 km East, then turns right and goes 3.5 km and reaches his school. The sister goes 2.5 km North, then 1 km West, then turns left and goes 6 km and reaches her school. Where is the brother's school with respect to the sister's school?

A 0.5 km East

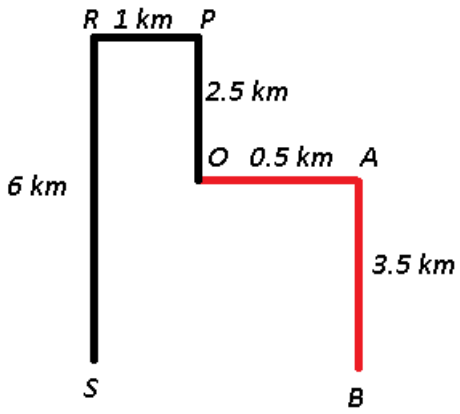
B 1.5 km West

C 0.5 km West

D 1.5 km East

Answer: D

Explanation:
Let the brother and sister leave home from point O. The brother (red) goes 0.5 km East to A, then turns right and goes 3.5 km and reaches his school B. The sister (black) goes 2.5 km North, then 1 km West to point R, then turns left and goes 6 km southwards and reaches her school S.



=> BS = $1 + 0.5 = 1.5$ km

∴ Brother's school is **1.5 km east** with respect to the sister's school.

=> Ans - (D)

Question 14

The fitness club has organised a race. The route goes 4.5 km West from the starting point. It then turns North and goes 3 kms, then turns East and goes 4.5 km, finally it turns left and goes 1.5 km to reach the end point. Where is the end point with respect to the start point?

A 4.5 km North

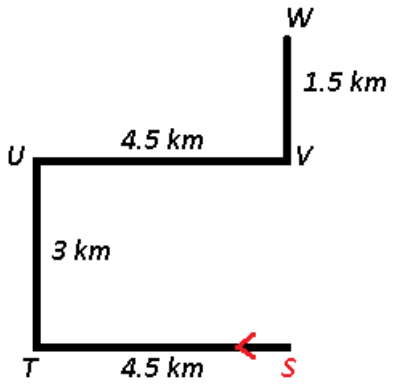
B 1.5 km South

C 4.5 km South

D 1.5 km North

Answer: A

Explanation:
The route goes 4.5 km West from the starting point S. It then turns North and goes 3 kms to U, then turns East and goes 4.5 km, finally it turns left and goes 1.5 km towards north to reach the end point W.



=> SW = $3 + 1.5 = 4.5$ km

∴ The end point is **4.5 km north** with respect to the start point.

=> Ans - (A)

Question 15

Akash leaves from his school at 5:30 a.m. He starts walking towards south and covers a distance of 20 km. He turns left and walks 15 km to reach point A. He turns right and walk 14 km. He again turns right and walks 10 km. How far (in km) and in which direction is he now from point A?

A 3√43, South-West

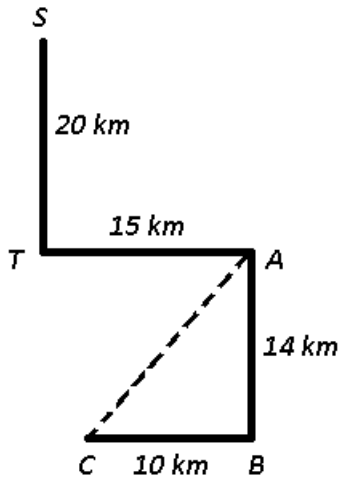
B 3√43, South-East

C 2√74, South-West

D 2√74, South-East

Answer: C

Explanation:
Let Akash starts walking from S towards south and covers a distance of 20 km to reach T. He turns left and walks 15 km to reach point A. He turns right and walk 14 km towards south to B. He again turns right and walks 10 km westwards to stop at C.



=> $(AC)^2 = (AB)^2 + (BC)^2$

=> $(AC)^2 = (14)^2 + (10)^2$

=> $(AC)^2 = 196 + 100 = 296$

=> $AC = \sqrt{296} = 2\sqrt{74}$ km

∴ He is $2\sqrt{74}$ km **south-west** from point.

=> Ans - (C)

Question 16

Parul cycles 3 km East, then turns South and cycles 1 km, then turns West and cycles 2.5 km, then turns to her right and cycles 1 km. Where is she now with reference to her starting position?

A 5.5 km East

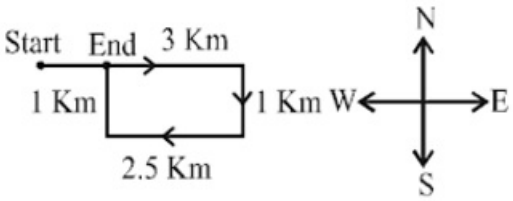
B 0.5 km West

C 0.5 km East

D 5.5 km West

Answer: C

Explanation:
Parul cycles 3 km East from the starting point, then turns South and cycles 1 km, then turns West and cycles 2.5 km, then she turns to her right and cycles 1 km towards north to reach the end.



=> Distance = $3 - 2.5 = 0.5$ km

∴ Now she is **0.5 km east** with reference to her starting position.

=> Ans - (C)

Question 17

A hiker walks 2 km South, then he turns West and walks for 4 km, then he turns North and walks for 5 km, then he turns to his right and walks for 4 km. Where is he now with respect to his starting position?

A 7 km North

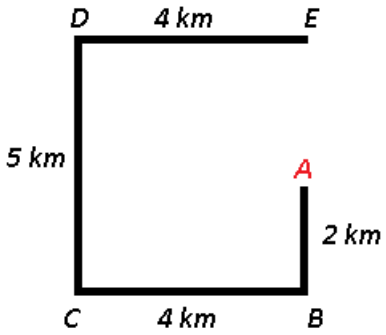
B 3 km North

C 3 km South

D 7 km South

Answer: B

Explanation:
Let the hiker starts from point A and walks 2 km South to reach B, then he turns West and walks for 4 km, then he turns North and walks for 5 km to point D, then he turns to his right and walks for 4 km to finally stop at E.



=> AE = $5 - 2 = 3$ km

∴ Now he is **3 km north** with respect to his starting position.

=> Ans - (B)

Question 18

Abhay and Chintan are riding their motorcycles. They start from the same point. Abhay rides 7 km North, then turns to his left and rides 4 km. In the meanwhile Chintan rides 6 km West, then turns North and rides 7 km, then turns to his left and rides 8 km. Where is Abhay with respect to Chintan?

A 4 km East

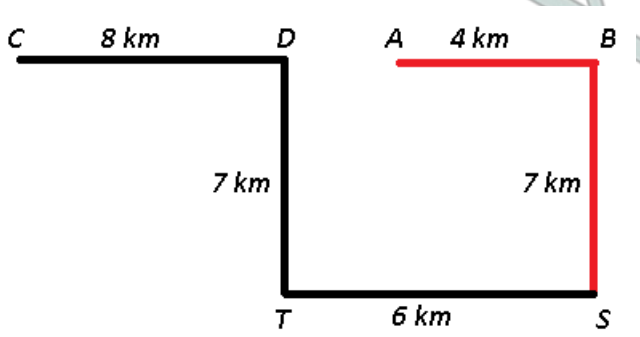
B 10 km West

C 4 km West

D 10 km East

Answer: D

Explanation:
Let they start from the same point S. Abhay (red) rides 7 km North, then turns to his left and rides 4 km to finally stop at A. In the meanwhile Chintan (black) rides 6 km West to T, then turns North and rides 7 km, then turns to his left and rides 8 km westwards to stop at C.



=> AC = $(6-4)+8=10$ km

∴ Abhay is **10 km east** with respect to Chintan.

=> Ans - (D)

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Question 19

Suman walks 15 km towards north. She turns right and walks another 15 km. She turns right and walks another 15 km. In which direction is she from her starting point ?

A North

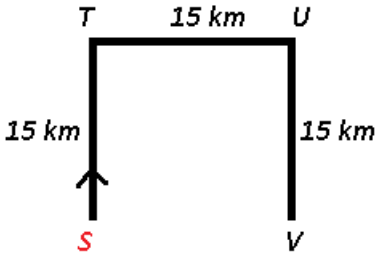
B South

C East

D West

Answer: C

Explanation:
Let Suman starts from point S and walks 15 km towards north to T. She turns right and walks another 15 km towards east. She again turns right and walks another 15 km downwards to reach V.



∴ She is 15 km **east** from her starting point.

=> Ans - (C)

Question 20

P, Q, R, S and T are sitting in a line facing west. P and Q are sitting together. R is sitting at south end and S is sitting at north end. T is neighbour of Q and R. Who is sitting in the middle?

A P

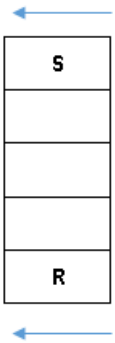
B Q

C R

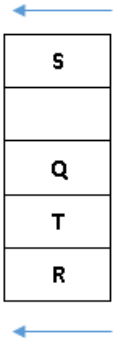
D S

Answer: B

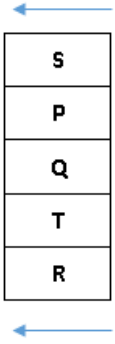
Explanation:
R is sitting at south end and S is sitting at north end.



T is neighbour of Q and R.



Thus, the remaining vacant position is filled by P, and the final arrangement is :



∴ **Q** is sitting in the middle.

=> Ans - (B)