



REASONING ABILITY

Direction and Distance



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Reasoning Ability - Direction and Distance

(Directions 1 – 5): Study the following information and answer the given questions.

Seven friends I, J, K, L, M, N and O had their houses situated along a straight row facing the north. They like different items among Eraser, Pencil, Pen, Scale, Book, Board and Table but not necessarily in the same order. The distance between the neighboring houses was a successive integral multiple of 5km and the distance increased from left to right.

I's house was third to the left of the friend who likes board. J's house was 135km to the right of the friend who likes scale. K's house was exactly between O's house and the friend who likes table. The friend who likes book was to the immediate left of the friend who likes pen. The friend who likes pen was 115km to the left of L's house. The friend who likes board was the neighbor of L's house. The friend who likes scale was 85km away from M's house. The friend who likes eraser had house at one of the extreme ends. O did not like pencil. The distance between any two houses was less than 80 km.

1. Which item does N likes?

- A. Eraser
- B. Board
- C. Pencil
- D. Table
- E. Book

Answer: B

Explanation [1-5]: Hence, distance between K and the friend who likes pen is 135km

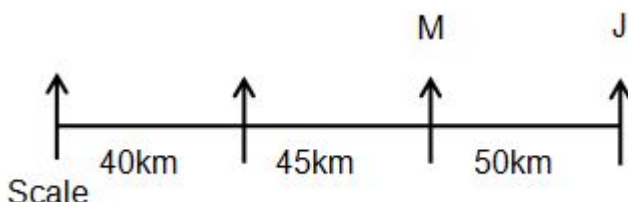
1. The distance between any two houses was less than 80 km.

The minimum distance asked in the question is 85km.

So, the distance between two houses cannot be 5km as $(5 + 80 = 85)$ which is not possible.

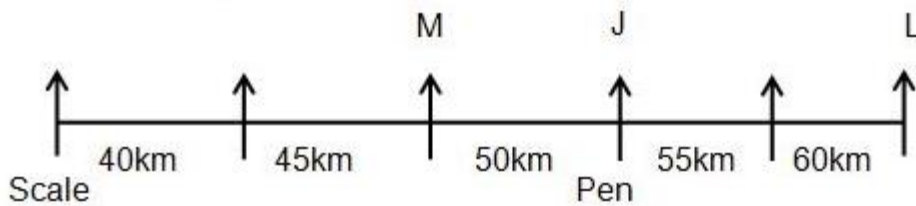
J's house was 135km to the right of the friend who likes scale. The friend who likes scale was 85km away from M's house.

This is possible in only one condition when distance between J and the friend who likes scale is successive integral of 5 as $(40 + 45 + 50)$.

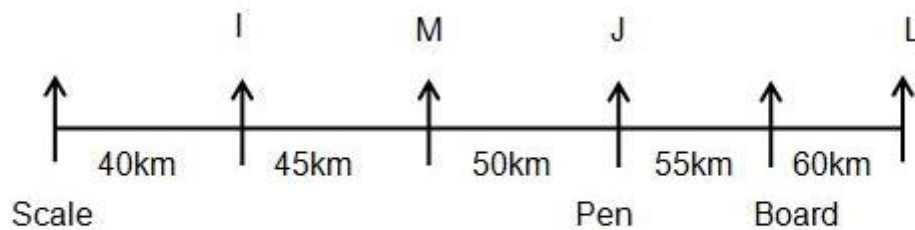




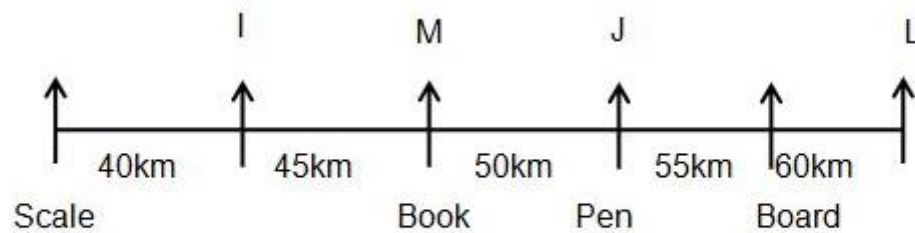
2. The friend who likes pen was 115km to the left of L's house.



3. The friend who likes board was the neighbour of L's house. I's house was third to the left of the friend who likes board.



4. The friend who likes book was to the immediate left of the friend who likes pen.



5. K's house was exactly between O's house and the friend who likes table. The friend who likes eraser had house at one of the extreme ends. O did not like pencil.

2. What is the distance between K and the friend who likes Pen?

- A. 95km
- B. 170km
- C. 150km
- D. 135km
- E. 85k

Answer: D

Explanation:

Hence, distance between K and the friend who likes pen is 135km.



3. How many houses are there between I and the friend who likes pencil?

- A. None
- B. One
- C. Two
- D. Three
- E. Four

Answer: D

Explanation:

Hence, three houses are there between I and the friend who likes pencil.

4. Who among the following sits to the immediate left of M?

- A. I
- B. The one who likes pen
- C. O
- D. The one who likes pencil
- E. J

Answer: A

Explanation:

Hence, I sit to the immediate left of M.

5. Who among the following has distance of 120km between them?

- A. I, The one who likes pen
- B. J, L
- C. O, The one who likes book
- D. K, The one who likes pen
- E. None of these

Answer: C

Explanation:

Hence, O and the one who likes book have distance of 120km between them.

Direction (6 – 10): Read the following information carefully and answer the questions given beside.

Six friends I, J, K, L, M and N are sitting in line AB, facing south direction and distance between two adjacent friend's increases when we move from point A to point B in consecutive integral multiple of 9m. Minimum possible distance between two friends is 18m in line AB. Two friends sit between K and N. L sits to the immediate left of J and neither of them is sitting next to the person sitting at extreme ends



of the line. I is first person from the right end. M and N are not immediate neighbors. Person sitting nearest to point B is 7m away from point B.

Six friends M, N, O, P, Q and R are sitting in the line XY facing south and distance between two adjacent friends increases when we move from point X to point Y in consecutive integral multiple of 5m. Atmost the distance between two immediate neighbors' in line XY is 30m. N sits towards left of O and distance between them is 75m. M sits at the immediate right of the Q and there is no person to the right of M. R does not sit towards left of P. Person sitting farthest from point X is at distance of 104m from point X. O does not sit nearest to point X.

Based on the above conditions:

I. In line AB, people whose distance from B is an odd number will move to line CD maintaining their respective positions and others will remain at their respective positions.

II. In line XY, people whose distance from X ends up with the number with unit digit 4 will move to line UV maintaining their respective positions and others will remain at their respective positions.

Length of line AB is 189m, XY is 107m, CD is 42m and UV is 78m.

6. How many friends changed their positions in line AB?

- A. Five
- B. Three
- C. Two
- D. Four
- E. One

Answer: D

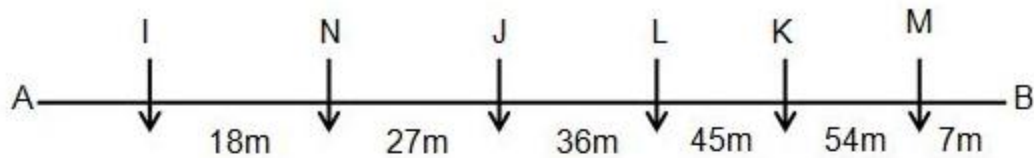
Explanation [6-10]:

1. Minimum possible distance between two friends is 18m in line AB. Six friends I, J, K, L, M and N are sitting in line AB, facing south direction and distance between two adjacent friends increases when we move from point A to point B in consecutive integral multiple of 9m.

Hence, minimum distance between two friends in line AB is 18m and distance between next two friends is 27m and 36m and so on.

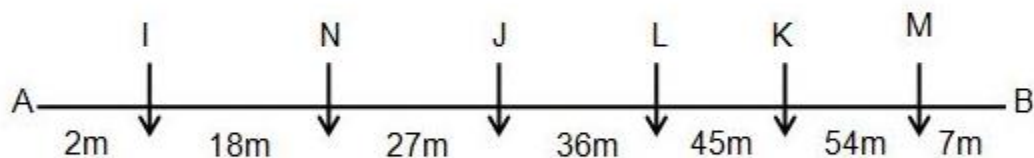


2. Two friends sit between K and N. L sits to the immediate left of J and neither of them is sitting next to the person sitting at extreme ends of the line. I is first person from the right end. M and N are not immediate neighbours. Person sitting nearest to point B is 7m away from point B.

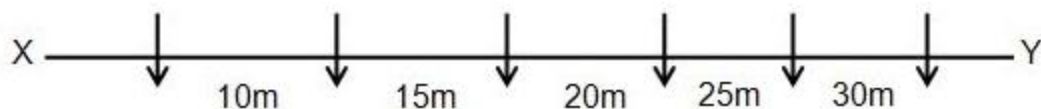


3. Length of line AB is 189m, XY is 107m, CD is 42m and UV is 78m.

Hence, distance of I from point A is $189 - (18 + 27 + 36 + 45 + 54 + 7) = 2\text{m}$

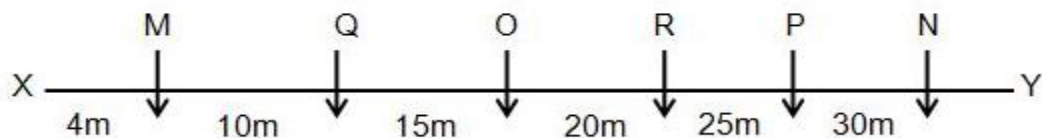


4. Atmost the distance between two immediate neighbours in line XY is 30m. Six friends M, N, O, P, Q and R are sitting in the line XY facing south and distance between two adjacent friends increases when we move from point X to point Y in consecutive integral multiple of 5m.



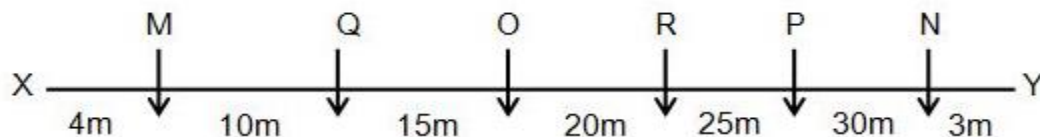
5. N sits towards left of O and distance between them is 75m. M sits at the immediate right of the Q and there is no person to the right of M. R does not sit towards left of P. Person sitting farthest from point X is at distance of 104m from point X. O does not sit nearest to point X.

Hence, distance of M from point X is 4m.



6. Length of line AB is 189m, XY is 107m, CD is 42m and UV is 78m.

Hence, distance of N from point Y is $107 - (10 + 15 + 20 + 25 + 30 + 4) = 3\text{m}$



Hence, four friends changed their positions in line AB.

7. After movement, what is the distance between the any two persons in the line XY and in case only one person left choosing option 5.

A. 15m



- B. 20m
- C. 25m
- D. 10m
- E. Cannot be determined

Answer: B

Explanation:

Hence, distance between O and R is 20m.

8. How many persons move to line UV?

- A. None
- B. One
- C. Two
- D. Three
- E. Four

Answer: D

Explanation:

Hence, four persons move to line UV.

9. What is the total distance between M and R?

- A. 30m
- B. 49m
- C. 50m
- D. 45m
- E. None of these

Answer: D

Explanation:

Hence, distance between M and R is 45m.

10. What is the distance of N from point Y?

- A. 2m
- B. 3m
- C. 4m
- D. 5m
- E. 6m

Answer: B

Explanation:





Hence, distance of N from point Y is 3m.

Directions [11 – 15]: Read the following information carefully and answer the questions that follow:

M % N means M is to the right of N at a distance of 1m.

M @ N means M is to the left of N at a distance of 1m.

M \$ N means M is to the north of N at a distance of 1m.

M # N means M is to the south of N at a distance of 1m.

The persons are facing the south direction.

11. A % B # C % D, then D is in which direction with respect to A?

- 1) North
- 2) South-East
- 3) North-West
- 4) South-West
- 5) South

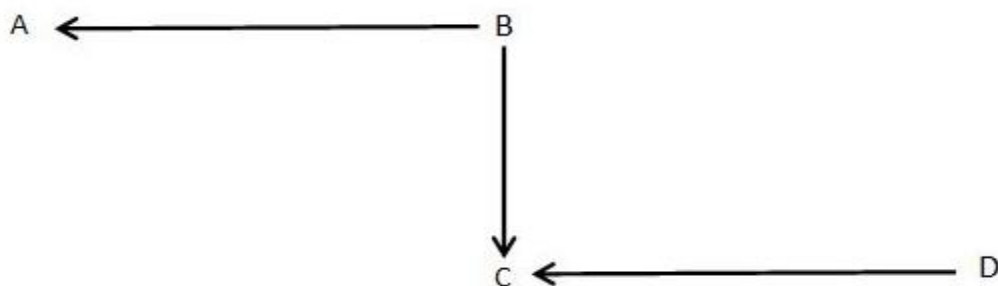
Answer: D

Explanation:



In the given statement,

A % B # C % D → A is to the right of B, B is to the south of C and C is to the right of D.



Hence, D is in north-west direction with respect to A.

12. A # B % C \$ D, then D is in which direction with respect to A?

- 1) North
- 2) North-East



3) South

4) West

5) South-West

Answer: D

Explanation:

In the given statement,

$A \# B \% C \$ D \rightarrow$ A is to the south of B, B is to the right of C and C is to the north of D.



Hence, D is in west direction with respect to A.

13. $E \$ F @ G \# H$, then H is in which direction with respect to E and what is distance between H and E?

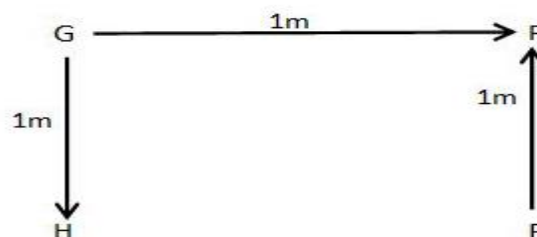
- A. North, 1m
- B. South, 1m
- C. South-East, 1m
- D. East, 1m
- E. West, 1m

Answer: D

Explanation:

In the given statement,

$E \$ F @ G \# H \rightarrow$ E is to the north of F, F is to the left of G and G is to the south of H.



Hence, H is in east direction with respect to E and the distance between H and E is 1m.



14. $A \# B \% C \$ D \% E$, then E is in which direction with respect to B?

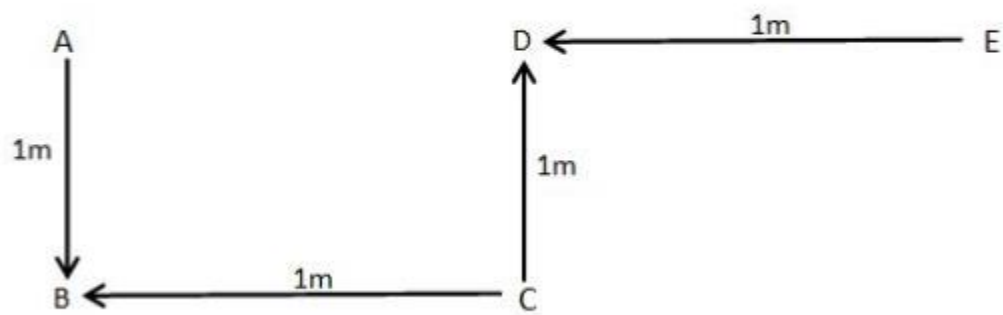
- A. North
- B. South-West
- C. North-East
- D. South-East
- E. West

Answer: B

Explanation:

In the given statement,

$A \# B \% C \$ D \% E \rightarrow$ A is to the south of B, B is to the right of C, C is to the north of D and D is to the right of E.



Hence, E is in south-west direction with respect to B.

15. $P \# R @ S @ Q \$ T$, Then R is in which direction with respect to Q and at what distance?

- A. North, 1m
- B. South, 2m
- C. West, 2m
- D. East, 2m
- E. North-East, 1m

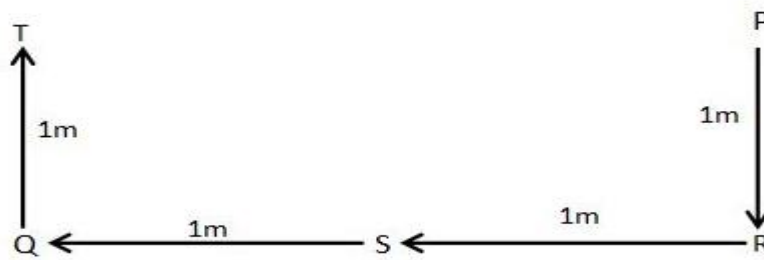
Answer: C

Explanation:



In the given statement,

$P \# R @ S @ Q \$ T \rightarrow$ P is to the south of R, R is to the left of S, S is to the left of Q and Q is to the north of T.



Hence, R is in west direction with respect to Q and distance between them is 2m.

Directions [16 – 20]: Read the following information carefully and answer the questions given below it:

Some numbers of bikes are parked in a linear row and all of them are facing in South direction. Only three bikes are parked between M and N. Only two bikes parked between N and O. P is not an immediate neighbor of N. Q is third to the right of M. More than three bikes parked between M and R and R is to the right of M. There is no immediate neighbor of R and N. Less than five bikes parked between S and Q and R is to the left of S. Less than two bikes parked between Q and R. Less than two bikes parked between P and the bike which is parked on left extreme end and no less than 13 bikes parked between S and P. Each bike is moved facing South direction: S is 4km east of R. Q is 2km north of R. M is 4km south of Q. N is 2km west of M. P is 6m east of N. O is 4km north of N.

16. Who among the following parked on extreme right end?

- A. P
- B. N
- C. O
- D. S
- E. Cannot be determined

Answer: D

Explanation [16-20]:

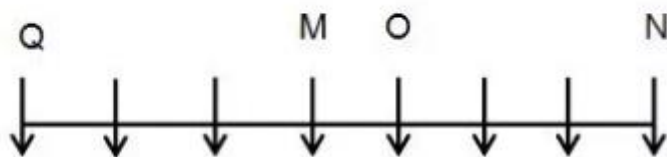


1. Q is third to the right of M. Only three bikes are parked between M and N. There is no immediate neighbour of R and N. Only two bikes parked between N and O.

Case 1:

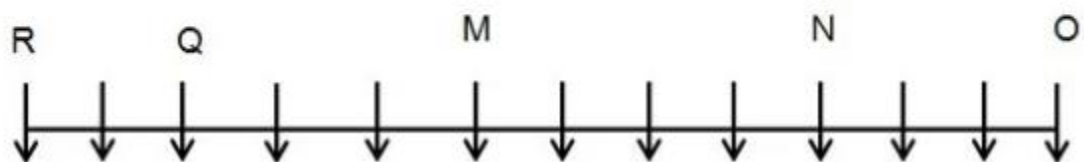


Case 2:



2. More than three bikes parked between M and R and R is to the right of M. Less than two bikes parked between Q and R. There is no immediate neighbour of R and N.

Case 1:



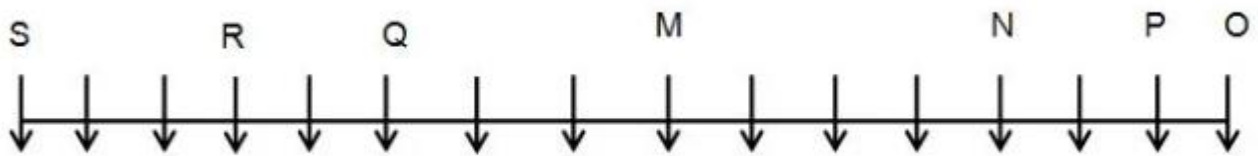
Case 2:



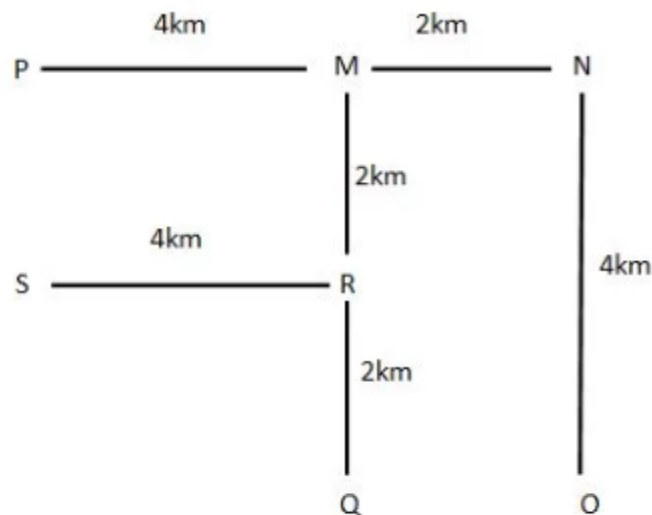
3. Less than two bikes parked between P and the bike which is parked on left extreme end and no less than 13 bikes parked between S and P. Less than five bikes parked between S and Q and R is to the left of S. P is not an immediate neighbour of N.



This is not possible in case 2. So, case 1 is correct.



4. S is 4km east of R. Q is 2km north of R. M is 4km south of Q. N is 2km west of M. P is 6km east of N. O is 4km north of N.



Hence, S is parked on extreme right end of the line.

17. What is the direction of bike P with respect to bike O?

- A. South – West
- B. South – East
- C. North – West
- D. North
- E. None of these

Answer: B

Explanation:

Hence, bike P is in South – East direction with respect to bike O.

18. How many bikes are parked in the line?

- A. 14
- B. 15
- C. 16
- D. 17



E. 13

Answer: C

Explanation:

Hence, 16 bikes are parked in the line.

19. Which of the following bikes are immediate neighbors' of each other?

- A. S, O
- B. M, P
- C. P, O
- D. O, M
- E. None of these

Answer: C

Explanation:

Hence, O and P are immediate neighbors' of each other.

20. What is the direction of bike S with respect to bike N?

- A. North – East
- B. South – West
- C. North
- D. South – East
- E. None of these



Answer: A

Explanation:

Hence, bike S is in North – East direction with respect to bike N.

Direction [21 – 29]: Read the following information carefully and answer the questions given beside.

In the following questions, the symbols &, %, * and # are used with the following meanings as illustrated below. Study the following information and answer the given questions:

Note: The directions which are given indicate exact directions.

A&B – A is in the south direction of B.

A*B – A is in the north direction of B.

A%B – A is in the east direction of B.

A#B – A is in the west direction of B.



A@BS- A is the mid-point of BS vertically.

Note– For southeast direction it used to be written as A&%B and so on...

When it is given that the Car honks once then it will be considered as the car taken a left turn and if it is given as the car honks twice then it will be considered as the car takes a right turn.

Point A is %15m of point B. Point C is *33m of point A. Point D is *25m of point B. Point E is #20m of point D. Point F is &40m of point E. Point G is %40m point F. Point H@IG. Point I is *30m of Point G.

21. What distance the car has to travel from point I to reach the airplane which is parked at point A?

- A. 22m
- B. $6\sqrt{10}$ m
- C. 43 m
- D. $5\sqrt{10}$ m
- E. 35m

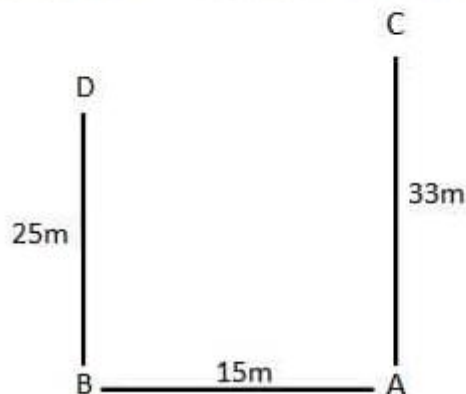
Answer: D

Explanation:

Distance between point I and point C = $\sqrt{(152 + 52)} = \sqrt{225 + 25} \text{ m} = \sqrt{250} \text{ m} = 5\sqrt{10} \text{ m}$

Explanation: (21- 29)

1. Point A is %15m of point B. Point C is *33m of point A. Point D is *25m of point B.
Point A is 15m east of point B. Point C is 33m north of point A. Point D is 25m north of point B.

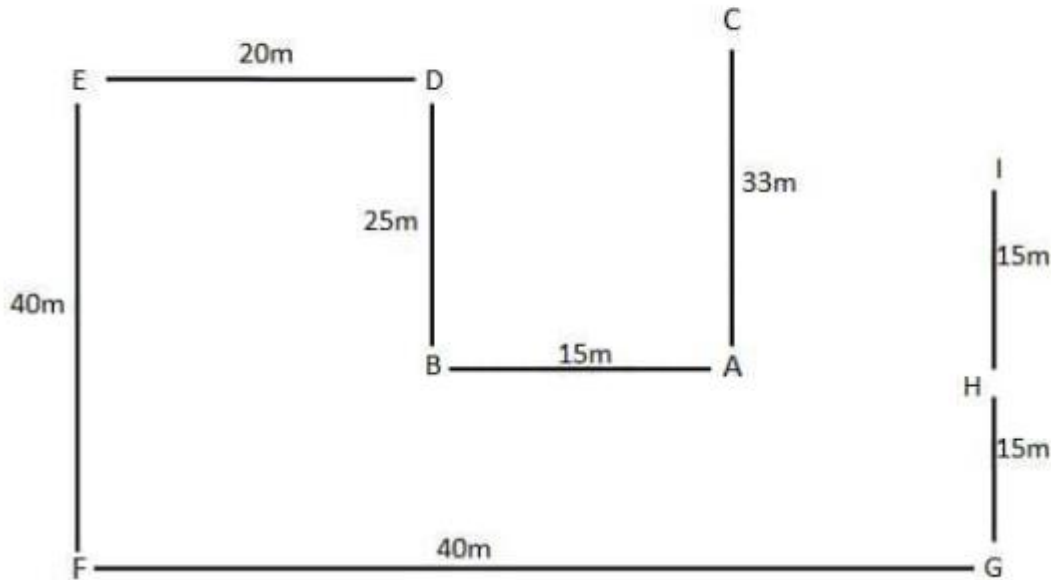


What



2. Point E is #20m of point D. Point F is &40m of point E. Point G is %40m point F. Point H@IG. Point I is *30m of Point G.

Point E is 20m west of point D. Point F is 40m south of point E. Point G is 40m east of point F. Point H is mid – point of IG vertically. Point I is 30m north of point G.



22. Could the possible shortest route to reach point D from point C?

- A. Started in east till 15km, honks once, cover 8km
- B. Started in west till 15km, honks twice, cover 8km
- C. Started in south till 25km, honks once, cover 8km
- D. Started in north till 5km, honks once, cover 8km
- E. Started in west till 15km, honks once, cover 8km

Answer: E

Explanation:

To reach point D from point C, we have to start in west till 15km honks once (take one left turn) and cover 8km.

23. Point I am in which direction from point F?

- A. &
- B. *#
- C. &#
- D. *%
- E. &%

Answer: D

Explanation:



Hence, point I is in north – east direction from point F i.e. *%.

24. Point H is in which direction from point B?

- A. &
- B. *
- C. #
- D. %
- E. &%

Answer: D

Explanation:

Point H is in east direction with respect to point B i.e. %.

25. Point E is in which direction with respect to point C?

- A. &%
- B. *%
- C. *#
- D. &#
- E. &

Answer: D

Explanation:

Point E is in south – west direction with respect to point C i.e. &#.

26. Which of the following points lie in the straight line?

- A. E and B
- B. A and G
- C. D and B
- D. E and J
- E. None of these

Answer: C

Explanation:

Hence, D and B lie in the straight line.

27. What could the possible shortest route to reach point G from point A?

- A. Started in east till 5km, honks twice, cover 15km
- B. Started in west till 5km, honks once, cover 15km
- C. Started in east till 5km, honks once, cover 8km
- D. Started in east till 5km, honks twice, cover 8km



E. None of these

Answer: A

Explanation:

To reach point G from point A, we have to start in east till 5km honks twice (take one right turn) and cover 15km.

28. Point F is in which direction from point I?

- A. &#
- B. *
- C. #
- D. %
- E. &%

Answer: A

Explanation:

Hence, point F is in south – west direction with respect to point I i.e. &#.

29. What is the shortest distance between point A and point E?

- A. $5\sqrt{97}$ m
- B. $5\sqrt{87}$ m
- C. $5\sqrt{74}$ m
- D. $5\sqrt{53}$ m
- E. None of these

Answer: C

Explanation:

Distance between point A and point E = $\sqrt{(352 + 252)} = \sqrt{1225 + 625} \text{ m} = \sqrt{1850} \text{ m} = 5\sqrt{74} \text{ m}$

Directions [30 – 32]: Read the following information carefully to answer the questions that follow. The questions are based on following coding formats:

– North

@ – South

% – East

\$ – West

! – Either 4 or 6 m



& – Either 3 or 10 m

Examples: P@Q means P is South of Q, P#\$Q means P is North-West of Q, P\$!Q means P is West of Q at a distance of either 4 or 6 m.

Conditions given are as:

- I. A#&B
- II. A#\$C
- III. C%B
- IV. C\$! D
- V. E@&D
- VI. F\$! E
- VII. G#! F
- VIII. G@\$C

30. If B#G, then which of the following is true regarding points B and G?

- A. G#&B
- B. B#&G
- C. B@!G
- D. G@!B
- E. None of these

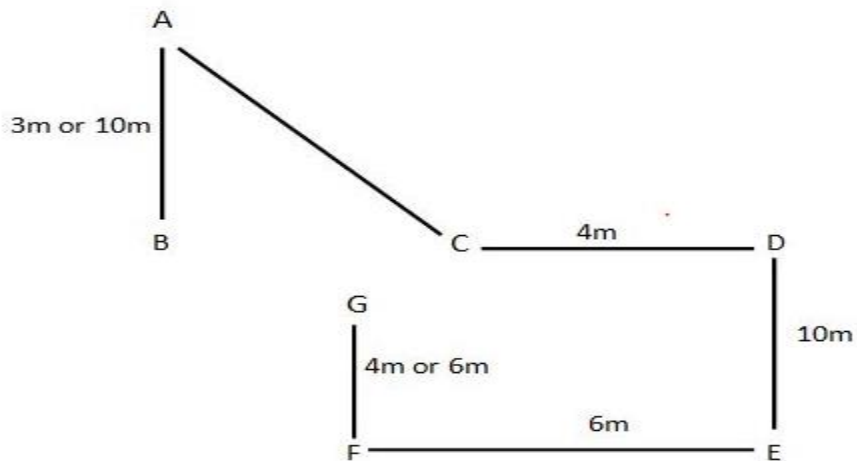
Answer: D

Explanation:

According to conditions given:

- I. A#&B
- II. A#\$C
- III. C%B
- IV. C\$! D
- V. E@&D
- VI. F\$! E
- VII. G#! F
- VIII. G@\$C





If $GF = 4\text{m}$ then GB must be 6m and if $GF = 6\text{m}$ then GB must be 4m .
Hence, $G@!B$ means G is south of B at a distance of either 4 or 6 m.

31. If distance point G and E is $6\sqrt{2}\text{m}$, then find distance between points G and C ?

- A. $2\sqrt{5}\text{m}$
- B. $3\sqrt{5}\text{m}$
- C. $5\sqrt{6}\text{m}$
- D. $4\sqrt{6}\text{m}$
- E. $5\sqrt{2}\text{m}$

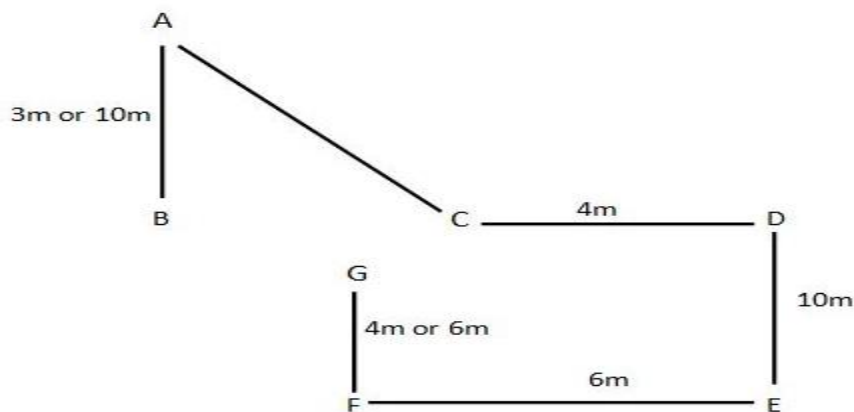
Answer: A

Explanation:

According to conditions given:

- I. $A\#B$
- II. $A\$C$
- III. $C\%B$
- IV. $C\$!D$
- V. $E@&D$
- VI. $F\$!E$
- VII. $G\#!F$
- VIII. $G@\$C$





$$GE = 6\sqrt{2} \text{ m}$$

$$\text{So } FG = \sqrt{(GE^2 - FE^2)} = \sqrt{(6\sqrt{2})^2 - 6^2} = \sqrt{36} = 6 \text{ m}$$

Assume point S – east of G and south of C

$$\text{So } GC = \sqrt{(GS^2 + CS^2)}$$

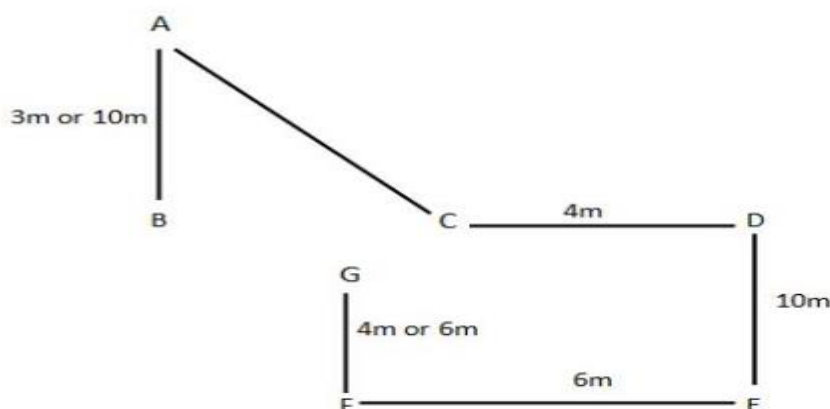
$$GS = FE - CD = 2 \text{ m}, CS = DE - FG = 10 - 6 = 4 \text{ m}, \text{ now find } GC = 2\sqrt{5} \text{ m}$$

32. If K@!D and G\$K, what is the maximum area of the quadrilateral formed by joining points K, G,

- A. 36
- B. 49
- C. 64
- D. 30
- E. 25

Answer: A

Explanation:



K@!D – K is south of D and at a distance of 4 or 6 m,

G is west of K. So figure formed by joining given points is a rectangle.

So if DK = 4, KE = FG = 6, and if DK = 6, then KE = FG = 4. Area will be maximum in 1st case. So Area of rectangle KEFG = FE * De = 6 * 6 = 36 m²



Directions (33 – 34): Read the following information carefully to answer the questions that follow. The questions are based on following coding formats:

- # – North
- @ – South
- % – East
- \$ – West
- ! – Either 4 or 6 m
- & – Either 3 or 6 m

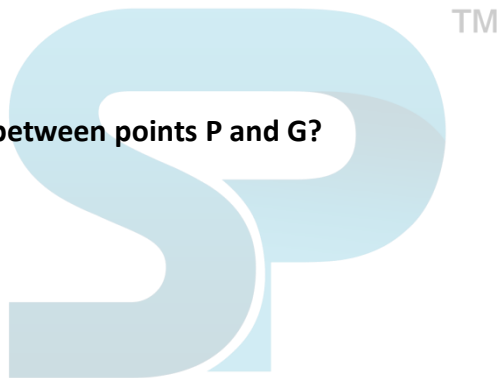
Examples: P@Q means P is South of Q, P#\$Q means P is North-West of Q, P\$! Q means P is west of Q at a distance of either 4 or 6 m.

Conditions given are as:

- I. A\$&P
- II. P#! D
- III. D\$! G
- IV. K#&G
- V. K%&M
- VI. P\$K

33. If P%M, what is the distance between points P and G?

- A. $2\sqrt{10}$ m
- B. $3\sqrt{13}$ m
- C. $2\sqrt{13}$ m
- D. $3\sqrt{10}$ m
- E. None of these

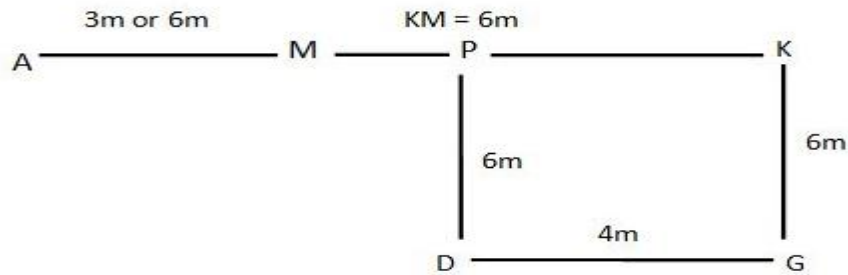


Answer: C

Explanation:

According to conditions given:

- I. A\$&P
- II. P#! D
- III. D\$! G
- IV. K#&G
- V. K%&M
- VI. P\$K



To make P west of M, MK should be greater than DG, which is possible when $DG = 4$, $MK = 6$
 So, $PG = \sqrt{(PD^2 + DG^2)} = \sqrt{(6^2 + 4^2)} = 2\sqrt{13}$ m

34. Which of the following is definitely false based on the position of points given in Question above?

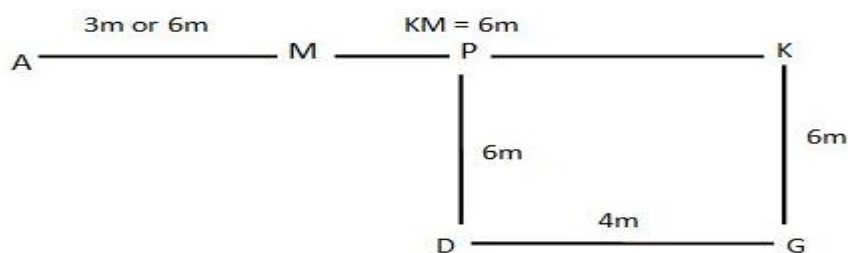
- A. A#\$G
- B. D@\$K
- C. G@%P
- D. M#%G
- E. D@\$M

Answer: D

Explanation:

According to conditions given:

- I. A\$&P
- II. P#! D
- III. D\$! G
- IV. K#&G
- V. K%&M
- VI. P\$K



M is definitely North-West of G, so M#\$G is correct.

Directions [35– 37]: Read the following information carefully and answer the questions that follow:

A + B means P is to the right of Q at a distance of 1m.

A – B means P is to the left of Q at a distance of 1m.

A # B means P is to the north of Q at a distance of 1m.



A * B means P is to the south of Q at a distance of 1m.

In each of the following questions all person faces south.

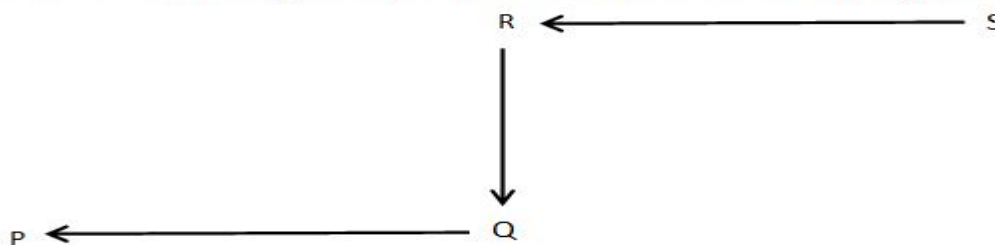
35. $P + Q * R + S$, then S is in which direction with respect to P?

- A. North
- B. South-East
- C. North-East
- D. East
- E. South-West

Answer: C

Explanation:

$P + Q * R + S \rightarrow$ P is to the right of Q, Q is to the south of R and R is to the right of S.



Hence, S is in north-east direction with respect to P.

36. $I * J + K \# L$, then L is in which direction with respect to I?

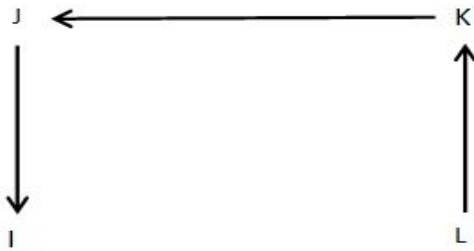
- A. North
- B. North-East
- C. South
- D. East
- E. South-West

Answer: D

Explanation:

In the given statement

$I * J + K \# L \rightarrow$ I is to the south of J, J is to the right of K is to the north of L



Hence, L is east direction with respect to I.

37. $A \# B - C * D$, then D is in which direction with respect to A?

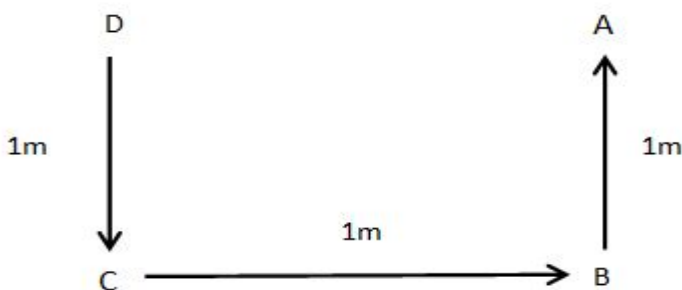
- A. North
- B. South
- C. South-East
- D. East
- E. West

Answer: E

Explanation:

In the given statement,

$A \# B - C * D \rightarrow$ A is to the north of B, B is to the left of C and C is to the south of D.



Hence, B is west direction with respect to I.

Directions: Q (38-40) – Bala walked 25km towards west, took a left turn and walked 15km. He again took a left turn and walked 30km. He then took a right turn and stopped.

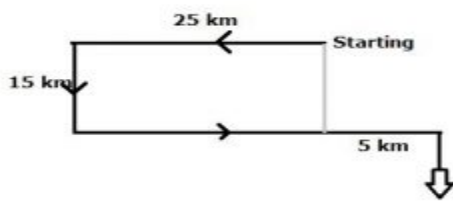
38. Now he was facing which direction?

- A. West
- B. East
- C. South
- D. North
- E. None of these



Answer: C

Explanation:

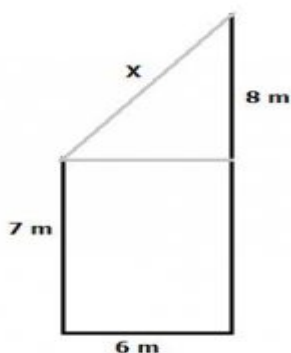


38. Raghav starts walking in south direction and walks a distance of 7 meters. Now he took a left turn and walk 6m. Again he takes a left turn and walk 15m and reached a point P. Find the distance between starting point and P and in which direction is the person from the initial point.

- A. 10m, south east
- B. 10m, north east
- C. 20m, north west
- D. 20m, south west
- E. None of these

Answer: B

Explanation:



$$X^2 = 6^2 + 8^2$$

$$X = \sqrt{100} = 10$$

39. Dheepthi started from point A in south direction. After walking for 4 m she turned to her right and walked 5 m. Now she turned to her left and walked 3 m after which she turned to her right. Now she walked 4 m and turned to her right again and walked 15 m. Now finally she turned to her right and after walking for 7 m, she stopped at point B. What is the distance AB?

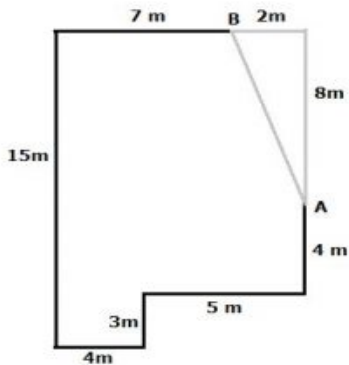
- A. $2\sqrt{34}$ m
- B. 34 m



- C. $3\sqrt{17}$ m
- D. $2\sqrt{17}$ m
- E. None of these

Answer: D

Explanation:



$$\text{Direction } X^2 = 8^2 + 2^2$$

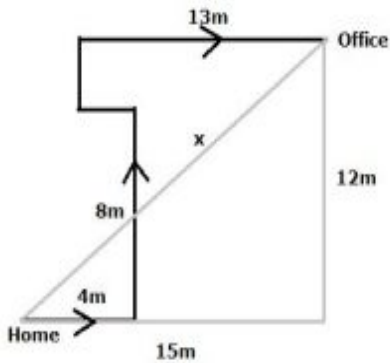
$$X = \sqrt{68} = 2\sqrt{17}$$

40. Riya started from her home to office. She started in east direction. After walking for 4 m she turned to her left and walked 8 m, now she turned left and walked 2 m. After this she turned to right walked 4 m. Now after turning to her right she walked 13 m and reached office. Find the shortest distance between her office and home.

- A. 87 m
- B. $9\sqrt{41}$ m
- C. 26 m
- D. $3\sqrt{41}$ m
- E. None of these

Answer: D

Explanation:



$$\text{DirectionX2} = 152 + 122$$

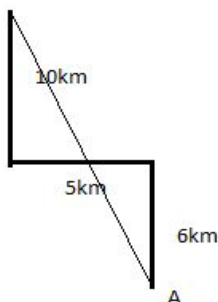
$$X = \sqrt{369} = 3\sqrt{41}$$

41. Rahall walks a distance of 10 km towards south, then he turns to his left and walks 5 km. From here he took a right turn and walks 6 km and stops at a point A. Find the distance between the starting point and A and A is in which direction with respect to starting point.

- A. 17km, north east
- B. 17km south east
- C. 17km north west
- D. 17km south west
- E. None of these

Answer: B

Explanation:



$$16^2 + 5^2 = \sqrt{281} = 17\text{km (approx.)}$$

42. Neha travelled from a point X straight to point Y at a distance of 50 meters. He turned to his right and walks 50 meter more, then again turned right and walks 60 meter. Finally, he turned to right and walks 50 meters. How far is he from the starting point?

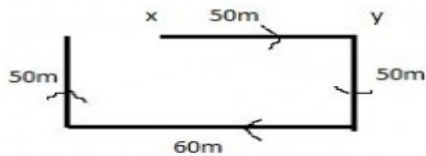
- A. 10
- B. 20



- C. 30
- D. 40
- E. None of these

Answer: A

Explanation:

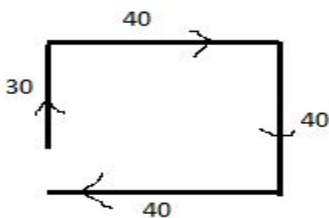


43. Nishant walks 30 meter in the north direction, after that he took a right turns and walks 40 meter. After that he took a right turn and walks 40 meter more and finally he took a right turn and stop after walking 40 meter. Find the distance of nishant from the initial position?

- A. 5
- B. 10
- C. 15
- D. 20
- E. None of these

Answer: B

Explanation:

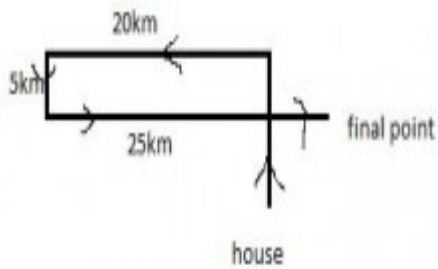


44. from his house, Ram went 15 kms to the north. Then he turns west and covered 20 km. Then he turned south and covered 5 km. Finally turning to east, he covered 25 km. In which direction is he from his house?

- A. north west
- B. north east
- C. south east
- D. south west
- E. None of these

Answer: B

Explanation:

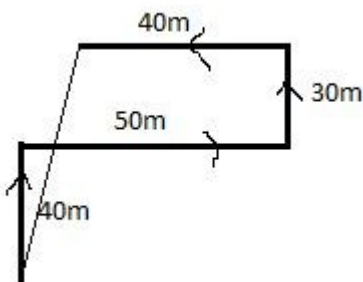


45. A man walks 40 meters towards north. Then turning to his right, he walks 50 meter. Then turning to his left, he walks 30 meters. Again he turns to his left and walks 40 meters. How far is he from initial position?

- A. $40\sqrt{2}$
- B. $50\sqrt{2}$
- C. $60\sqrt{2}$
- D. $50\sqrt{3}$
- E. None of these

Answer: B

Explanation:



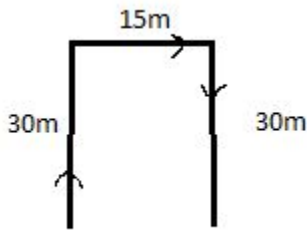
$$\sqrt{(70^2 + 10^2)} = \sqrt{5000} = 50\sqrt{2}$$

46. Riya goes 30 km towards North from a fixed point, then after turning to her right she goes 15 km. After this she goes 30 km after turning to her right. How far and in what direction is she from her starting point?

- A. 10m east
- B. 15m east
- C. 20m east
- D. 25m east
- E. None of these

Answer: B

Explanation:

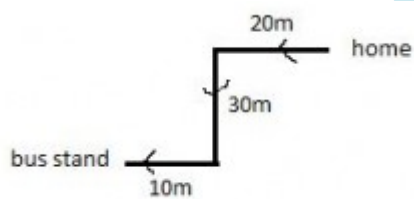


47. A person starts walking from his home in west direction and after walking 20 meter he took a left turn and walk 30 meters. Now he took a right turn and walks 10 meter to reach the bus stand. Find the distance between home and stand

- A. $20\sqrt{2}$
- B. $30\sqrt{2}$
- C. $40\sqrt{2}$
- D. $50\sqrt{2}$
- E. None of these

Answer: B

Explanation:



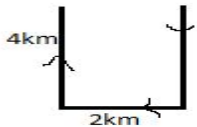
$$\sqrt{(30^2 + 30^2)} = 30\sqrt{2} \text{ m}$$

48. A girl rides her bicycle southwards then turned right and rode 2 km and again turned right and rode 4 km. She found herself exactly 2 km east from the starting point. How far did she ride southwards initially?

- A. 2km
- B. 3 km
- C. 4 km
- D. 6 km
- E. None of these

Answer: C

Explanation:

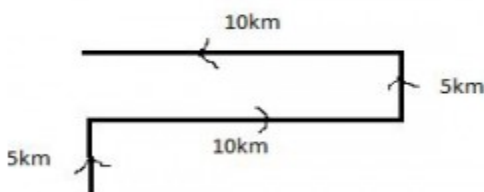


49. One day raj left home and walked 5 km northwards turned right and walked for 10km and turned left and walked 5 km more and finally turned left and walked 10km. How many kilometers will he have to walk to reach his home straight?

- A. 15 km
- B. 10 km
- C. 5 km
- D. 20 km
- E. None of these

Answer: B

Explanation:

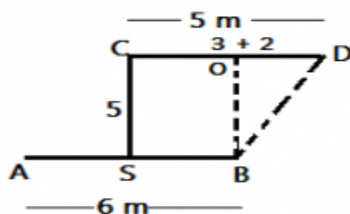


50. Point A is 6 m west of point B. Point C is 5 m north of point S which is midway on the AB. Point C is 5 m west of point D. What is the distance BD?

- A. $\sqrt{26}$ m
- B. 10 m
- C. $\sqrt{29}$ m
- D. 18 m
- E. None of these

Answer: C

Explanation:



$$10-2BD = \sqrt{52} + 22$$



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