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## Direction Sense Questions for SBI PO Pre, IBPS PO Pre, SBI Clerk Mains and IBPS Clerk Mains Exams.

**Direction :** Read the given information carefully and answer the questions given beside: (A set of 2 questions)

Five friends Teenu, Bani, Chandni, Dev and Joy are playing Hide and Seek and standing randomly. Bani is to the northeast of Joy. Dev is 20 m to the east of Joy, who is 60 m to the west of Teenu. Chandni is to the northwest of Dev and in the line of Joy and Bani. Dev is 40 m to the south of Bani.

**1. If Bani is to look for Teenu in the game, what distance she saves if she goes to Teenu straight instead of first going to Dev and then reaching Teenu?**

- A. 42.47 m      B. 56.60 m      C. 27.34 m      D. 23.44 m      E. None of these

**2. What angle does Bani make at the point where Teenu is standing while Joy, Dev and Teenu are in the same line?**

- A.  $135^\circ$       B.  $45^\circ$       C.  $90^\circ$       D.  $60^\circ$       E. None of these

**Direction :** Read the given information carefully and answer the questions given beside: (A set of 3 questions)

Lihaan walks 8m towards south from his office to reach park. Then take left and walks 15m to reach traffic signal. Then he turns 90 degree anti-clock wise direction and walks 8m to reach coffee shop. From the coffee shop he takes left and walks 8m to reach home.

**3. What is the shortest distance between Lihaan's office and Traffic signal?**

- A. 30 m      B. 25 m      C. 17 m      D. 15 m      E. None of these

**4. Park is in which direction with respect to Lihaan's Home?**

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

**5. What is the horizontal distance between Lihaan's office and Coffee shop and in which direction is Coffee shop from Lihaan's Office?**

- A. 15m, East      B. 15 m, West      C. 12m, East      D. 12m, West      E. None of these

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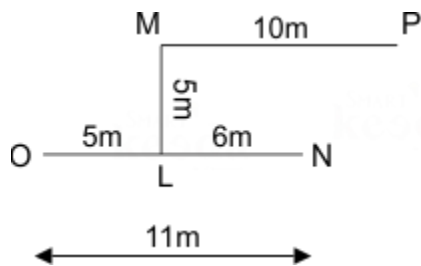
**Direction : Read the given information carefully and answer the questions given beside: (A set of 2 questions)**

Point M is 5 meters towards the North of Point L.

Point P is 10 meters towards the East of point M.

Point N is 6 meters towards the East of point L.

Point O is 11 meters towards the West of point N.



6. If a person walks 5 m towards the South from point P and then after taking a right turn, which of the following points would he reach first?

- A. L                      B. M                      C. N                      D. O                      E. None of these

7. Point A is 6m north of point B. Point C is 9m west of point B. Point R is 7m east of point S which is 12m south of point M. Point N is 2m north of point M.

If point S is 1m east of point B then, what is the distance between Point A and Point R?

- A. 6 m                      B. 8 m                      C. 10 m                      D. 12 m                      E. None of these

**Direction : Read the given information carefully and answer the questions given beside: (A set of 2 questions)**

Kishore and Lokesh are siblings and live in the same room. Both of them went to their respective colleges from different routes. Colleges of both Kishore and Lokesh are in east direction with respect to their room.

8. Kishore moves 150m in north direction and turns right. After walking for 110m, he reached Axis bank. Then he turns right and move 70m to reach a traffic signal. Then he turns left and move 140m to reach the shopping mall. Then finally he moves 100m in south west direction to his college. What is the shortest distance between Axis bank and his college?

- A. 150 m                      B. 160 m                      C. 170 m                      D. 180 m                      E. None of these

**9.** Lokesh moves 120 m in north direction from his home and then turn right. After walking 110 m he reached Yes Bank. Then he turns right and moves 90 m to reach the coffee shop. Then he moves 100 m in north-east direction to reach Market, which is in the east direction of Yes bank. From there he moved 150 m in south-west direction to reach his college. What is the shortest distance between his room and his college?

- A. 110 m                      B. 70 m                      C. 85 m                      D. 140 m                      E. None of these

**10.** Rahul walked 30 m towards North and then he took a left turn and walked 10 m then he again took a left turn and walked 6 m. Find the shortest distance and in which direction is he from the starting point?

- A. 25 m Northeast      B. 26 m Northwest      C. 25 m Northwest      D. 26 m Northeast      E. None of these

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

Sumit started walking in east direction from point A. After walking 15 m he reached point B, from there he takes a left turn and walk 10 m to reach point C. From C, he turns left and walk 7 m and reaches point D. Then, he turns left and walks 34 m to reach point E. From point E he turns right and walks 28 m. Now he reached point F and from there he turns right and walks 40 m to reach point G. From point G he turns right and walks 32 m to reach point H.

**11.** What is the direction of G with respect to A?

- A. North                      B. East                      C. Northwest                      D. West                      E. Southwest

**12.** If point J is the point of intersection of points A, B, D and E then which of the following is/are true about J?

- A. Point H is to the north of J.                      B.  $JE + JD = GF - 6$                       C. J is to the north of D.  
D. All are true                      E. None is true

**13.** What is the total distance travelled by Sumit in west direction?

- A. 35 m                      B. 64 m                      C. 56 m                      D. 43 m                      E. None of these

**14.** What is the direction of point C with respect to point H?

- A. South                      B. Southwest                      C. Southeast                      D. Northwest                      E. North

**15.** What is the shortest distance between points A and H?

- A.  $\sqrt{481}$  m                      B. 25 m                      C.  $16\sqrt{15}$  m                      D. 20 m                      E. None of these

**16.** Anaya is 15m to the west of Rithika. Rithika is 20m to the north of Genelia. Genelia is 12m to the east of Diksha. Faizah is 16m to the north of Diksha. If Anaya has to meet Faizah through the shortest distance and then has to meet Genelia from Faizah's point through the shortest distance, then what is the total distance travelled by Anaya?

- A. 25m                      B. 20m                      C. 35m                      D. 30m                      E. Cannot be determined

**17.** Ajay, who is facing exactly in south-east direction, turns 45 degree in anti clock-wise direction, then 135 degree clockwise direction and then 90 degree in anti clock wise direction. In which direction Ajay is facing now?

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

**18.** Point L is 2m towards north of point C. Point N is 7m towards east of point L. Point O is 8m towards south of point N. Point T is 12m towards west of point O. What is the direction of point C with respect to point T?

- A. Northeast              B. Southwest              C. North                      D. Southeast              E. South

**19.** Rajesh walked 25 meters towards South. Then he turned to his left and walked 20 meters. He then turned to his left and walked 25 meters. He again turned to his right and walked 15 meters. At what distance is he from the starting point and in which direction?

- A. 60 meters-East        B. 35 meters-East        C. 35 meters-North        D. 40 meters-East        E. None of these

**Direction :** Read the given information carefully and answer the questions given beside: (A set of 2 questions)

Ramlin and Divya are two friends. They start walking from same point but in opposite direction. Ramlin walks towards north. After walking 10km Ramlin takes a right turn and walks for 5km then turns 90 degree in clockwise direction and walks 20km to reach his office and then takes a left turn and walks 5km to reach canteen. Divya also follows the same condition as Ramlin.

**20.** What is the direction of Divya's office with respect to the starting point?

- A. North-west              B. North                      C. South                      D. South-east              E. East

**21.** If Ramlin takes another left turn from canteen and walks 20km to reach his home. Then find the shortest distance between Ramlin's homes to Ramlin's office?

- A.  $9\sqrt{12}$  km              B.  $4\sqrt{37}$  km              C.  $5\sqrt{17}$  km              D.  $17\sqrt{5}$  km              E. None of these

**Direction : Read the given information carefully and answer the questions given beside: (A set of 2 questions)**

Arjun is standing at Central Park and now he wants to go to India Gate. So, he started walking in the north direction for 6 km then took a left turn and walked for 4 km before taking another left turn. Then he moved 3 km and reached Cannought place(CP) and took a right turn from there and walked for 8 km. After walking 12 km in south direction he reached his destination.

**22. What is the shortest distance between India Gate and Central Park?**

- A. 12 km                      B. 15 km                      C. 21 km                      D. 14 km                      E. None of these

**23. Central Park is in which direction from CP?**

- A. West                      B. South-west                      C. South-east                      D. North-west                      E. South

**Direction : Read the given information carefully and answer the questions given beside: (A set of 2 questions)**

Car X starts from point A and travels in a straight line towards north for 8 km and takes a right turn and travels for 12 km then turns towards left and travels for 6 km before taking a right turn it travels for 10 km and takes a right turn and travels for 15 km and reaches a point B which is 8 km towards west of the point C where car Y stands.

**24. What is the position of Car Y with respect to initial position of car X?**

- A. East                      B. Northwest                      C. Southeast                      D. Southwest                      E. West

**25. What is total distance travelled by car X in east direction?**

- A. 18 km                      B. 22 km                      C. 29 km                      D. 30 km                      E. None of these

**Directions: Study the following information carefully and answer the questions given beside. (A set of 2 questions)**

Point B is 25 m south of point A. Point C is 30 m east of point B. Point D is 15 m north of point C. Point E is 10 m west of point D.

**26. If point X is 30 m east of Point A, then Point D is how far and in which direction from point X?**

- A. 10 m, North                      B. 5 m, North                      C. 15 m, South                      D. 10 m, South                      E. 15 m, South

**27. What is the direction of point A with respect to point E?**

- A. North                      B. Northwest                      C. Southeast                      D. Southwest                      E. West

**Directions: Study the following information carefully and answer the questions given beside. (A set of 2 questions)**

Aman started from his school, walks 11 m towards the north then takes a right turn and walks 9 m after that he takes right turn again, walks 17 m and stops at his house. Rajat also starts from the same School, walks 14 m towards the south, then takes a left turn and walks 15 m before stopping at his house.

**28. What is the direction of school with and Aman's house?**

- A. Southwest                      B. Northwest                      C. North                      D. Southeast                      E. East

**29. What is the shortest distance between Rajat's house and Aman's house?**

- A. 12 m                      B. 15 m                      C. 8 m                      D. 10 m                      E. 11 m

**Directions: Study the following information carefully and answer the questions given beside. (A set of 3 questions)**

Nine shops –S1, S2, S3, S4, S5, S6, S7, S8 and S9 were located at some distance from each other in a shopping complex. S3 was 16 m % to that of S2. S1 was 6 m # of that of S2 and S8 was 12 m @ of that of S1. S7 was 8 m \$ of that of S8 while S4 was 24 m % of that of S7 and S6 was 12 m # of that of S7. S9 was situated just in the middle of S2 and S3 while S5 was just in the middle of S8 and S4.

Here, # means North, @ means South, % means East and \$ means West

Note: If two symbols are given simultaneously then we will consider both the directions.

For example,

X#%Y means Y is to the North-East of X

Y#%X means X is to the North-East of Y

**30. Which of the following is/are true about S2?**

- A. S9\$S2#S6                      B. S2@\$S7                      C. S2@%S4**

- A. All are true                      B. Both A and B                      C. Only A                      D. Both B and C                      E. Only C



31. If another shop S10 is located to the @ of S1 and # of S2 then which of the following is/are true about S10?

A. S8#S10      B. S4#S10      C. S7#S10

A. Both A and B      B. Only B      C. All are true      D. Only C      E. Both B and C

32. If S5 is 24 m to the \$ of S11 and S12 is to 12 m to the # of S11 then what is the shortest distance between S4 and 12?

A. 25 m      B. 20 m      C.  $10\sqrt{3}$  m      D. 18 m      E.  $12\sqrt{3}$  m

**Directions: Study the following information carefully and answer the questions given beside. (A set of 3 questions)**

Six persons – Reema, Naina, Suman, Ankit, Harish and Plash, each having a different age were sitting on the different benches in a park situated at some distance from each other.

No person was sitting in west of Reema, Ankit, and Harish. Oldest person was sitting 15 m north of Naina. Suman was sitting 10 m east of person Ankit. Youngest person was sitting northwest of Ankit. Ankit was sitting somewhere in between Harish and Naina vertically. Ankit was older than both Harish and Plash. Plash was third oldest person among all the persons and was 10 m west of third youngest person. Harish was younger than only one person.

33. What was the direction of Reema with respect to the second youngest person?

A. West      B. Northeast      C. Southeast      D. East      E. Northwest

34. What is the shortest distance between Plash and the second youngest person?

A. 32 m      B. 25 m      C. 20 m      D. 45 m      E. 10 m

35. If the youngest person was located 24 m to the north of third oldest person then what was the shortest distance between third youngest and youngest person?

A.  $26\sqrt{2}$  m      B.  $27\sqrt{2}$  m      C. 22 m      D. 26 m      E.  $20\sqrt{3}$  m





**Directions: Study the following information carefully and answer the questions given beside.**  
**(A set of 4 questions)**

Five persons – Ashi, Bala, Diya, Neha and Rupa were standing in a row facing north direction, but not necessarily in the same order. The distances between two adjacent persons are successive multiples of four (i.e. if the distance between the 1st and the 2nd person is 4 m, 1st and the 3rd person is 8m and between 1st and 4th person is 12 m and so on.)

(i.e. suppose Ashi stand on the left end of the line then the remaining people will stand at a distance as follows – 4 m, 8 m, 12 m and so on, from the end)

Ashi was standing at the left end of the line. Two persons were standing between Ashi and Bala. Diya stand second to the left of Bala. Rupa was an immediate neighbor of Diya. Only one person stands between Rupa and Neha. Joya starts walking from point X which was 8 m in north from Rupa. Joya moves 17 m in north-east direction to reach point Y. Point Y and Neha were inline vertically. Neha moves 6 m in the north direction and stops at point Z. Person Ashi moves in the direction to point Z.

**36. What is the shortest distance between the initial position of Neha and final position of Joya?**

- A.  $8\sqrt{19}$  m      B. 19 m      C.  $7 + 6\sqrt{11}$  m      D. 23 m      E. None of these

**37. What is the direction of initial position of Joya with respect to final position of Ashi?**

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

**38. What is the shortest distance between the final position of Ashi and initial position of Joya?**

- A.  $2\sqrt{17}$  m      B.  $3\sqrt{8}$  m      C.  $3\sqrt{12}$  m      D.  $4\sqrt{13}$  m      E. None of these

**39. If Ashi had stopped at point T which is 5m north from Bala instead of point Z, then what would be the shortest distance between initial and final position of Ashi?**

- A. 12 m      B. 15 m      C. 13 m      D. 10 m      E. None of these



**Directions: Study the following information carefully and answer the questions given beside.**  
**(A set of 3 questions)**

There is PQ axis in such a way that P is in north and Q is in south direction. There is RS axis in such a way that R is in west direction and S is in east direction. PQ axis and RS axis intersect at a point X in such a way that PX is 20 m, XQ is 23 m, XR is 19 m, XS is 31 m.

Car A starts from point R and travels 28 m in south direction and then it takes a left turn and travels 45 m. Car B starts from point P and travels 26 m in east direction. Car C starts from point S and travels 7 m in north direction and then it takes a left turn and travel 5 m and again it takes a left turn and travels 30 m.

**40. What is the shortest distance between the final positions of car A and car B?**

- A. 35 m                      B. 42 m                      C. 48 m                      D. 48 m                      E. None of these

**41. What is the direction of point R with respect to the final position of car A?**

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

**42. What is the direction of car C with respect to point P?**

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

**Directions: Study the following information carefully and answer the questions given beside.**  
**(A set of 3 questions)**

Point A is to the 4m east of Point D. Point BEG lies in a straight line. The distance between Point B and Point E is one-third the distance between Point E and Point G. Point K is south east of Point B. Point B is in the north east from Point A. The distance between B and C is twice the distance between D and A. The distance between B and C is same as the distance between G and K and are in parallel lines. Point E is north of Point G and is in south west of Point C. Point B is in the west from Point C. Point DAE is in a straight line. The distance between Point B and Point E is half the distance between Point A and Point E. The distance between Point B and Point E is 5m.

**43. Point K is in which direction of point D?**

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

**44. What is the shortest distance between Point A and Point B?**

- A.  $4\sqrt{5}m$                       B.  $2\sqrt{5}m$                       C.  $3\sqrt{5}m$                       D.  $5\sqrt{5}m$                       E. Can't be determined

**45. How far and in which direction is Point K with respect to Point C?**

- A. 20m, North      B. 20m, South      C. 20m, East      D. 20m, West      E. None of these

**Direction : Read the given information carefully and answer the questions given beside: (A set of 3 questions)**

Two friends Tinu and Dinu are driving car in Paris. Tinu is facing north and Dinu is facing south. They drive their cars for 80 meters in the direction they are facing and reached HDFC Bank and CUB ATM respectively. Then they turn right and drive for another 70 meters and reached PVR cinemas and Phoenix mall respectively. Then they take 90 degree anti clock wise direction for 40 meters and then they turn right. After driving for 30 meters Dinu reaches at CTS and Tinu reached at TCS.

**46. Initially, if Dinu was 270 meters to the east of Tinu, then what is the shortest distance and direction of TCS with respect to CTS?**

- A. 250 meters, north-west      B. 250 meters, north-east      C. 240 meters, north  
D. Either A or C      E. Cannot be determined.

**47. Initially, if Dinu was 200 meters to the east of Tinu, then what is the shortest distance and direction of TCS with respect to CTS?**

- A. 250 meters, north-west      B. 250 meters, north-east      C. 240 meters, north  
D. Either A or C      E. Cannot be determined

**48. Initially, if Dinu was 130 meters to the east of Tinu, then what is the shortest distance and direction of TCS with respect to CTS?**

- A. 250 meters, north-west      B. 250 meters, north-east      C. 240 meters, north  
D. Either A or C      E. Cannot be determined

**Direction : Read the given information carefully and answer the questions given beside: (A set of 2 questions)**

A is north-east of B. The shortest distance between A and B is 10 meter. C is south of A and east of B. The distance between B and C is twice the distance between A and E. The distance between A and C is twice the distance E and H. E is north of A. H is east of E. H is 3meter south of G. The shortest distance between G and E is 5 meter.

**49. What is the shortest distance between point A and H?**

- A. 6 meter      B. 7 meter      C. 5 meter      D. 4 meter      E. Cannot be determined

**50. What is the sum of the distance between A and C & E and H?**

- A. 9 meter      B. 10 meter      C. 12 meter      D. 14 meter      E. Cannot be determined

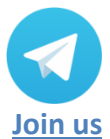
**CORRECT ANSWERS:**

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
D	B	C	A	A	C	C	C	B	B
<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>
C	B	A	C	D	A	C	A	B	A
<b>21</b>	<b>22</b>	<b>23</b>	<b>24</b>	<b>25</b>	<b>26</b>	<b>27</b>	<b>28</b>	<b>29</b>	<b>30</b>
C	B	C	C	B	D	B	B	D	A
<b>31</b>	<b>32</b>	<b>33</b>	<b>34</b>	<b>35</b>	<b>36</b>	<b>37</b>	<b>38</b>	<b>39</b>	<b>40</b>
C	B	E	B	D	D	C	A	C	C
<b>41</b>	<b>42</b>	<b>43</b>	<b>44</b>	<b>45</b>	<b>46</b>	<b>47</b>	<b>48</b>	<b>49</b>	<b>50</b>
E	B	C	D	B	A	C	B	C	C



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## EXPLANATIONS:

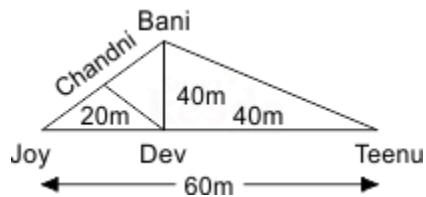
1. Distance covered by Bani while going to Dev and then reaching Teenu =  $40 + 40 = 80$  m

$$\text{Distance covered by Bani while going straight to Teenu} = \sqrt{(40)^2 + (40)^2} = \sqrt{3200}$$

$$= 56.56 \text{ m}$$

$$\text{Therefore, the distance saved} = 80 - 56.56$$

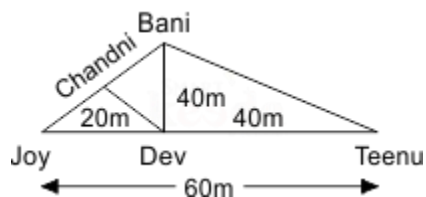
$$= 23.44 \text{ m}$$



Option D is hence the correct answer.

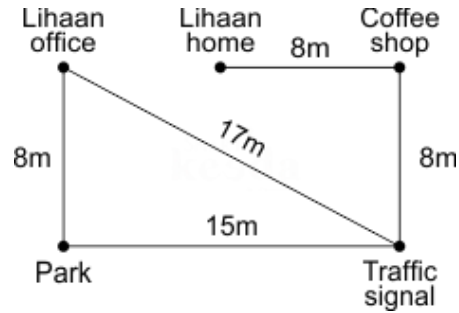
2. As per the diagram, the distance between Dev and Bani is 40 m while the distance between Dev and Teenu is also 40 m. Clearly, if we connect the points Bani, Dev and Teenu, they will form an isosceles triangle with angle BDT (Bani, Dev, Teenu) to be  $90^\circ$ .

Therefore, the angle BTB (Bani, Teenu, Dev) must be  $45^\circ$ .



Option B is hence the correct answer.

3. With the given information, following image can be drawn.

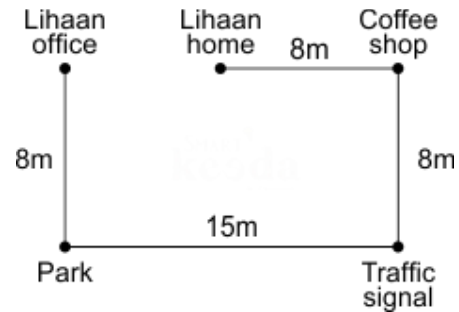


Shortest distance between Lihaan's office and Traffic signal =

$$\sqrt{8^2+15^2} = \sqrt{64 + 225} = \sqrt{289} = 17\text{m}$$

Hence, option C is correct.

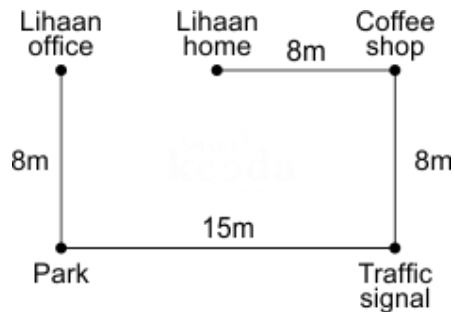
4. With the given information, following image can be drawn.



From the above image it is clear that Park is in south-west of Lihaan's home.

Hence option A is correct.

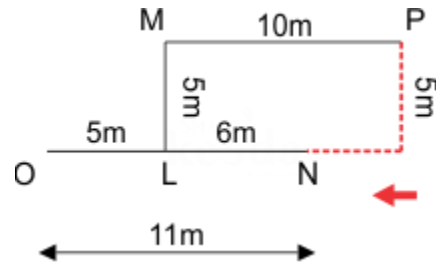
5. With the given information, following image can be drawn.



From the following image it is clear that the coffee shop is in the east direction from Lihaan's office. The horizontal distance between them is  $8+7 = 15$  m.

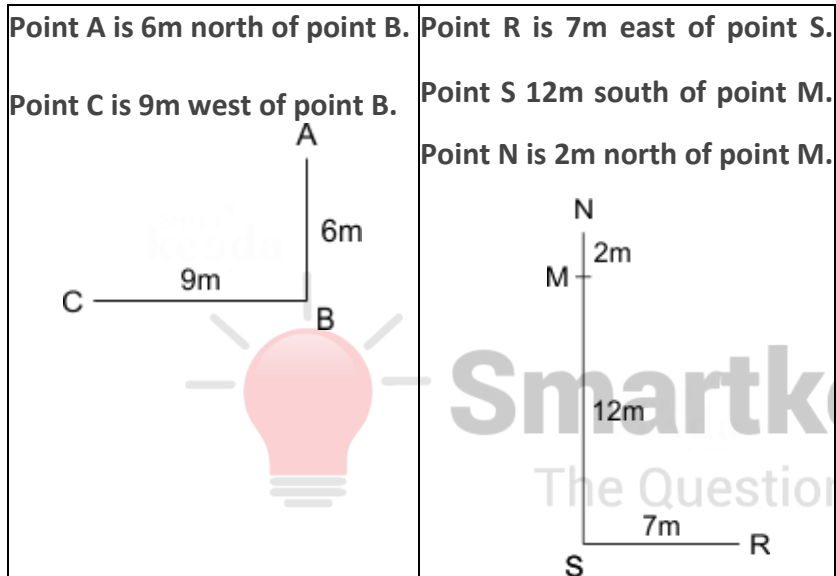
Hence, option A is the correct answer.

6. The following common explanation, we get "Person reaches point N as shown in fig".

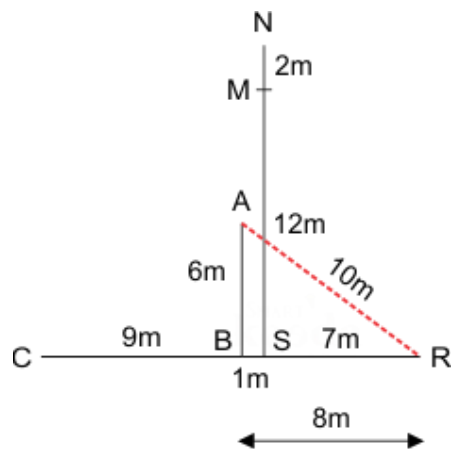


Hence, option C is correct.

7. The following common explanation, we get "10m".



If point S is 1m east of point B then the distance between Point A and Point R is calculated

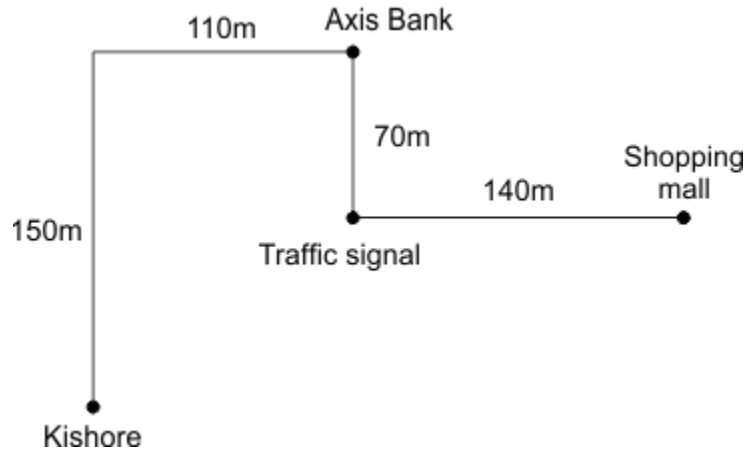


Calculation,  
 $(AR)^2 = (AB)^2 + (BR)^2 = (6)^2 + (8)^2$   
 $= 36 + 64 = 100m$  Then  $AR = 10m$

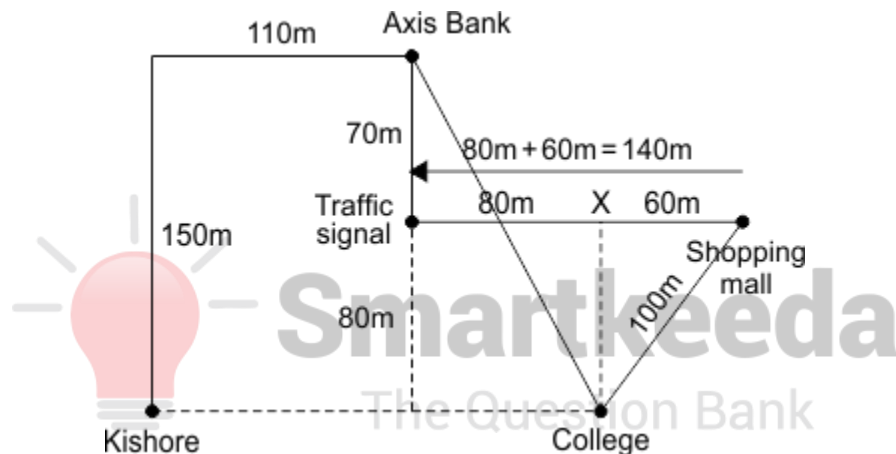
Hence, option C is correct.



8. **Note:** Colleges of both Kishore and Lokesh are in east direction with respect to their room.



Therefore, Kishore's college is exactly in the east direction of Kishore's room.



Let X be the point between Traffic signal & Shopping mall (not exactly.)

To find the shortest distance between X and shopping mall.

$$\sqrt{100^2 - 80^2} = \sqrt{10000 - 6400} = \sqrt{3600} = 60\text{m}$$

By this, we get to know that distance between the traffic signal and X =  $140\text{m} - 60\text{m} = 80\text{m}$

To find the shortest distance between Axis bank and college

$$\sqrt{150^2 + 80^2} = \sqrt{22500 + 6400} = \sqrt{28900} = 170\text{ m}$$

Hence, option C is correct.

9. **Note:** Colleges of both Kishore and Lokesh are in east direction with respect to their room.

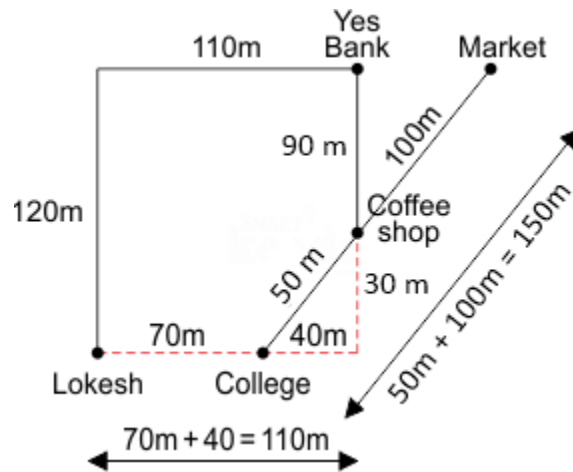
**Therefore, Lokesh's college is exactly in the east direction of his room.**

Now we know that Lokesh's college is in east direction with respect to Lokesh's room.

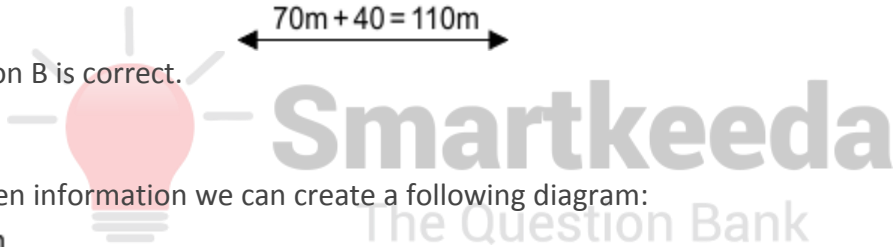
Using Pythagoras theorem, we get:

$$\sqrt{50^2 - 30^2} = \sqrt{2500 - 900} = \sqrt{1600} = 40 \text{ m}$$

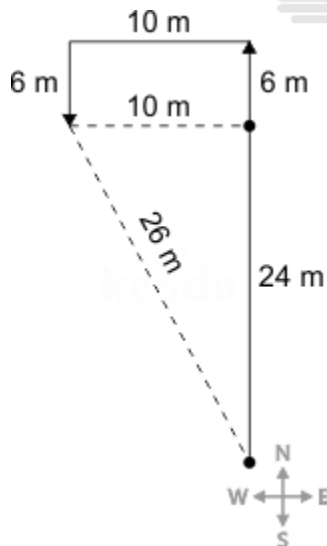
From this, we'll calculate the shortest distance between Lokesh's room and college =  $110\text{m} - 40\text{m} = 70\text{m}$



Hence, option B is correct.



10. Using the given information we can create a following diagram:



Applying the Pythagoras' theorem, we get

$$(\text{The shortest distance})^2 = 24^2 + 10^2 = 676$$

Therefore, the shortest distance = Under root of 676 = 26 m

In the above figure it is clear that the shortest distance is 26 m and the direction in which he is from the starting point is Northwest.

Hence, the correct answer is option B.

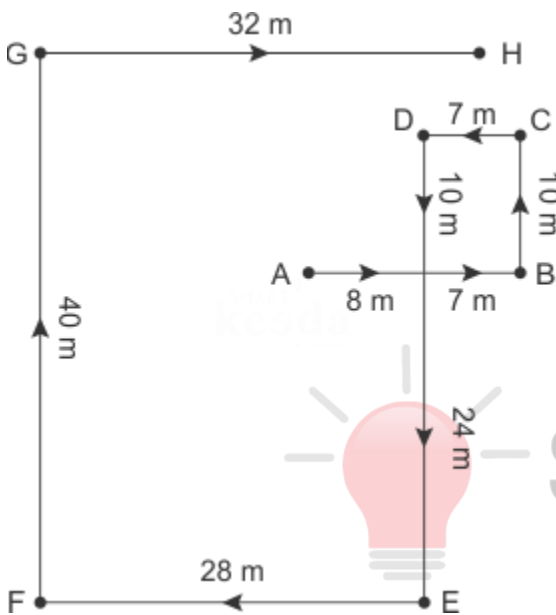
## Common Explanation: (11 to 15)

### Reference:

Sumit started walking in east direction from point A. After walking 15m he reached point B, from there he takes a left turn and walk 10 m to reach point C. From C, he turns left and walk 7 m and reaches point D. Then, he turns left and walks 34 m to reach point E. From point E he turns right and walks 28 m. Now he reached point F and from there he turns right and walks 40 m to reach point G. From point G he turns right and walks 32 m to reach point H.

### Inference:

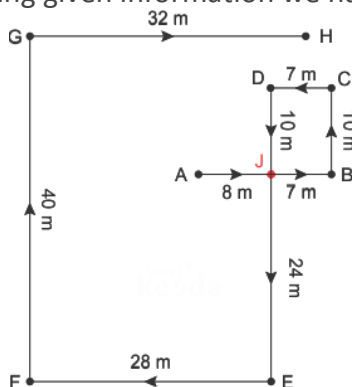
Using the above hints the path travelled by Sumit can be marked as:



**11.** From the final solution, we can say that point G is in northwest direction with respect to point A.

Hence, the correct answer is option **C**.

**12.** From the final solution, and applying given information we have:



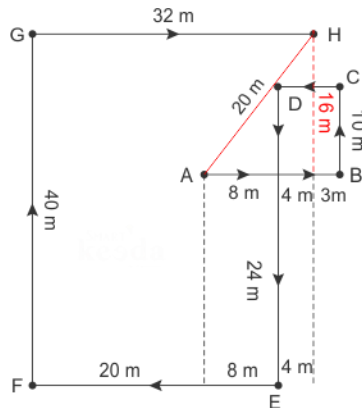
Here, only option B is true about J.

Hence, the correct answer is option **B**.

13. From the final solution, we can say that the total distance travelled by Sumit in west direction is 35 m.  
Hence, the correct answer is option **A**.

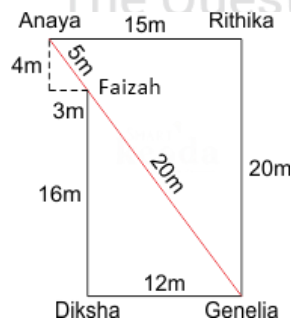
14. From the final solution, we can say that point C is in southeast direction with respect to point H.  
Hence, the correct answer is option **C**.

15. From the final solution, we have:



Using the Pythagoras theorem, we can say that the shortest distance between points A and H is 20 m.  
Hence, the correct answer is option **D**.

16.



**Explanation/References:**

- Anaya is 15m to the west of Rithika.
- Rithika is 20m to the north of Genelia.
- Genelia is 12m to the east of Diksha.
- Faizah is 16m to the north of Diksha.

**Shortest distance between Anaya to Faizah:**

$$\sqrt{4^2 + 3^2} = \sqrt{16 + 9} = \sqrt{25} = 5\text{m}$$

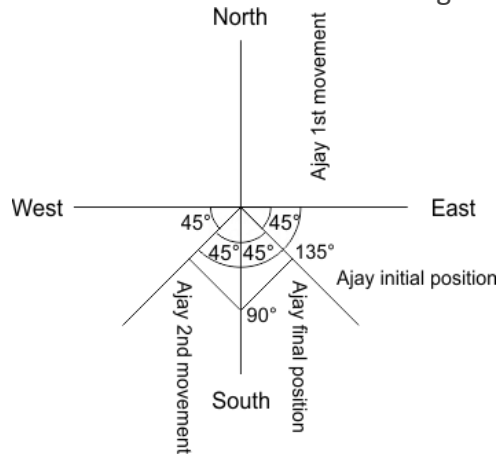
**Shortest distance between Anaya to Genelia:**

$$\sqrt{16^2 + 12^2} = \sqrt{256 + 144} = \sqrt{400} = 20\text{m}$$

Total distance travelled by Anaya = 5m + 20m = 25 m

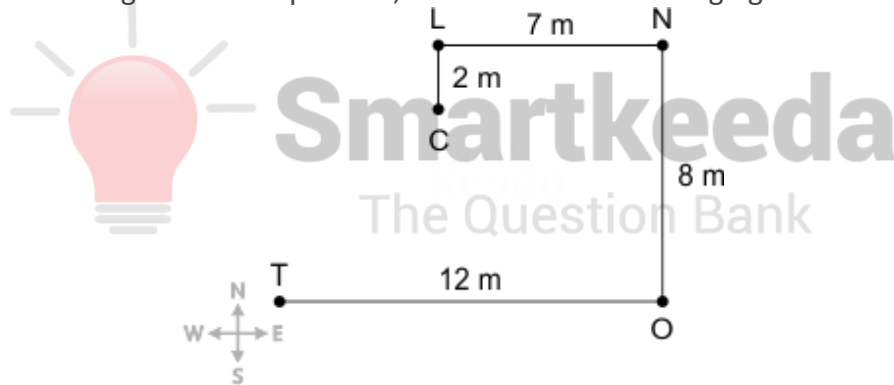
Hence, option A is correct.

17. The following common explanation, we get "**South-East**".  
 Total angular movement in anti-clockwise direction =  $45 + 90 = 135$  degrees and  
 Total angular movement in clockwise direction =  $135$  degree  
 Resultant angular movement =  $135 - 135 = 0$  degree  
 Therefore, the resultant movement will be the same as the original direction.



Hence, option C is correct.

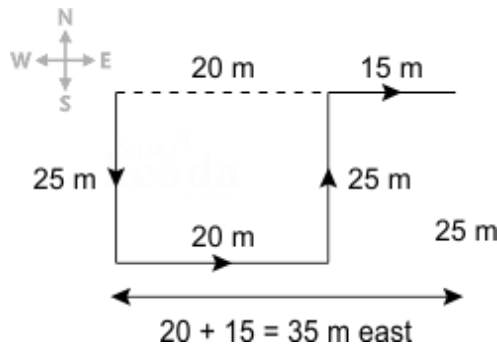
18. Using the information given in the question, we can draw a following figure:



After observing the above figure, we can say that point C is in northeast direction with respect to point T.

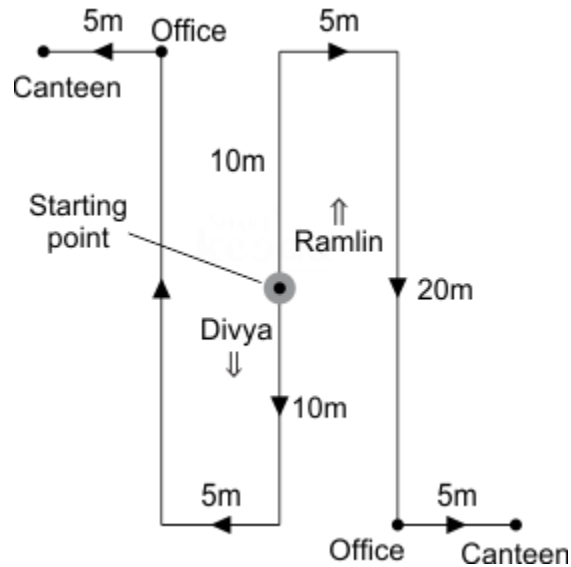
Hence, the correct answer is option A

- 19.



Hence, option B is correct.

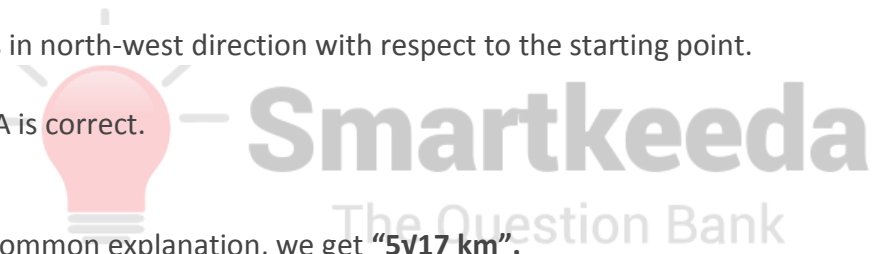
**Common explanation :- (20 to 22)**



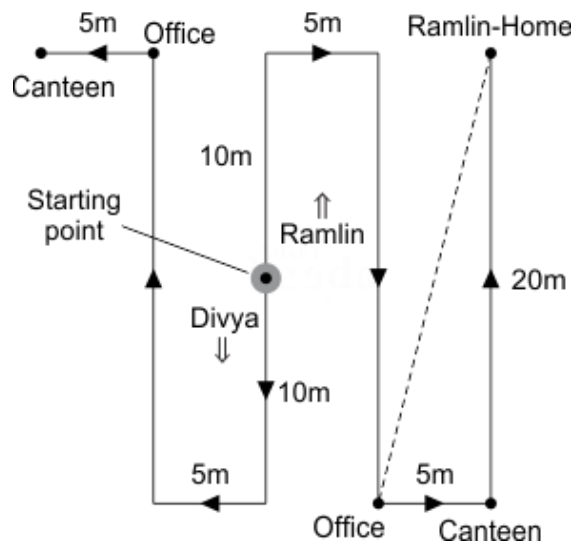
20. The following common explanation, we get “North-west”.

Divya’s office is in north-west direction with respect to the starting point.

Hence, option A is correct.



21. The following common explanation, we get “ $5\sqrt{17}$  km”.



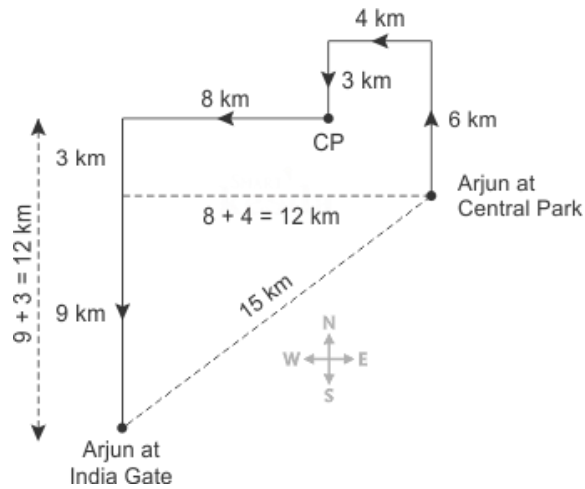
$$5^2 + 20^2 = 25 + 400 = 425 = 25 \times 17 = 517 \text{ km}$$

Shortest distance between Ramlin’s homes to Ramlin’s office

Hence, option C is correct.

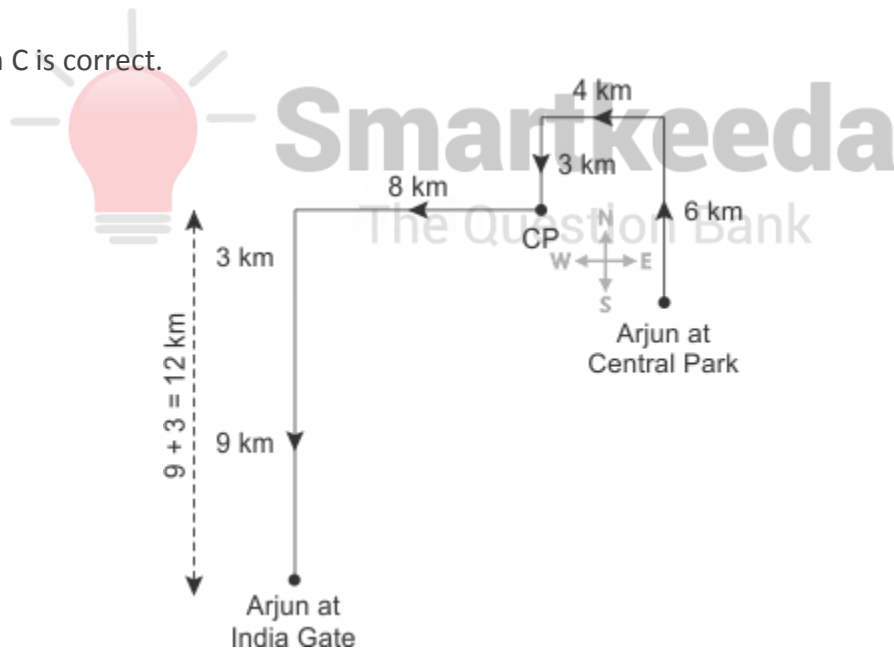
22. From the following image it is clear that the shortest distance between India Gate and Central Park is 15 km. (Using Pythagoras theorem)

Hence option B is correct.



23. From the following image it is clear that Central Park is in south-east direction from CP.

Hence option C is correct.





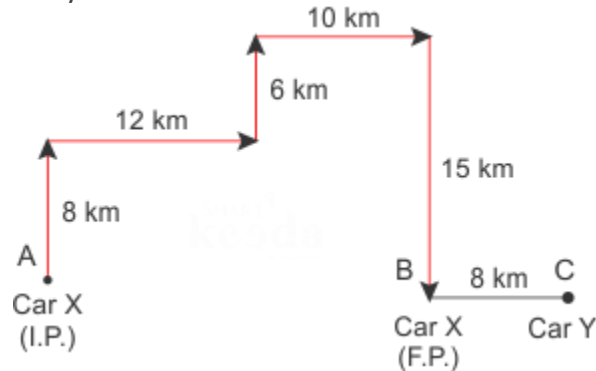
## Common explanation :- [24 to 25]

### Reference:

Car X starts from point A and travels in a straight line towards north for 8 km and takes a right turn and travels for 12 km then turns towards left and travels for 6 km before taking a right turn it travels for 10 km and takes a right turn and travels for 15 km and reaches a point B which is 8 km towards west of the point C where car Y stands.

### Inference:

Here, the distance travelled by car X is marked in red colour.



24. Following the final solution, we can say that Car Y is southeast direction with respect to initial position of car X.

Hence, the correct answer is option C.

25. Following the final solution, we can say that total distance travelled by car X in east direction is  $(10 + 12)$  km = 22 km.

Hence, the correct answer is option B.

## Common Explanation (26 to 27):

### Reference:

Point B is 25 m south of point A.

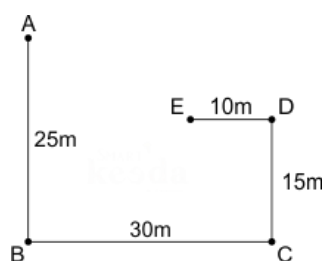
Point C is 30 m east of point B.

Point D is 15 m north of point C.

Point E is 10 m west of point D.

### Inference:

Using the above information we can draw a following figure:



**26.** Following the common explanation we can say point D is 10 m away and towards south of point X.

Hence, the correct answer is option D.

**27.** Following the common explanation we can say point A is in northwest direction with respect to point E.

Hence, the correct answer is option B.

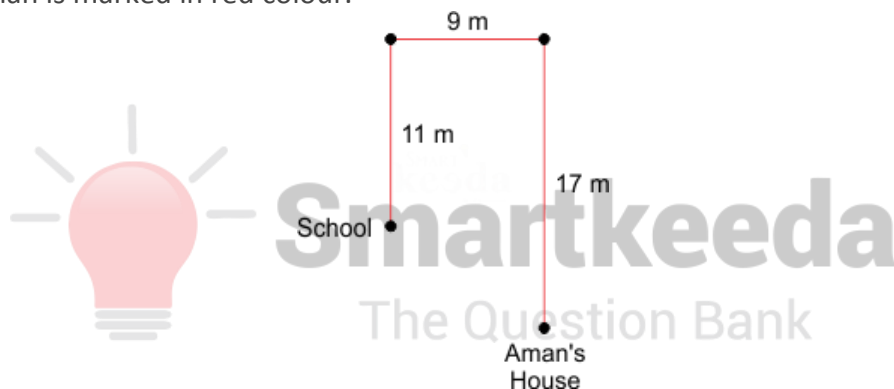
## Common Explanation ( 28 to 29):

### Reference:

Aman started from his home, walks 11 m towards the north then takes a right turn and walks 9 m after that he takes right turn again, walks 17 m and stops at his house.

### Inference:

Here, the path of Aman is marked in red colour.

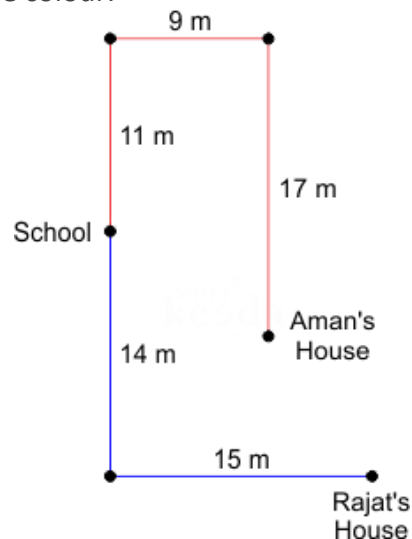


### Reference:

Rajat also starts from the same School, walks 14 m towards the south, then takes a left turn and walks 15 m before stopping at his house.

### Inference:

Here, the path of Rajat is marked in blue colour.



**28.** Following the final solution we can say that School is in northwest direction with respect to Aman's house.

Hence, the correct answer is option B.

**29.** Following the final solution we can say that the shortest distance between Rajat's house and Aman's house is 10 m.

Hence, the correct answer is option D.

### Common Explanation (30 to 32):

**Reference:**

Here, # means North, @ means South, % means East and \$ means West

**Note:** If two symbols are given simultaneously then we will consider both the directions.

For example,

X#%Y means Y is to the North-East of X

Y#%X means X is to the North-East of Y

**Inference:**

We will keep this information in mind while solving the puzzle.

**Reference:**

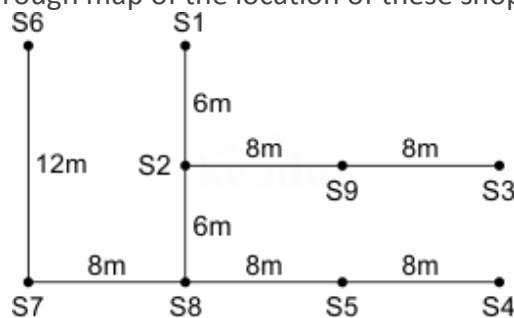
Nine shops –S1, S2, S3, S4, S5, S6, S7, S8 and S9 were located at some distance from each other in a shopping complex. S3 was 16 m % to that of S2. S1 was 6 m # of that of S2 and S8 was 12 m @ of that of S1. S7 was 8 m \$ of that of S8 while S4 was 24 m % of that of S7 and S6 was 12 m # of that of S7. S9 was situated just in the middle of S2 and S3 while S5 was just in the middle of S8 and S4.

**Inference:**

After decoding the symbols above statement can be rewritten as:

Nine shops –1, 2, 3, 4, 5, 6, 7, 8 and 9 were located at some distance from each other in a shopping complex. S3 was 16 m east to that of S2. S1 was 6 m north of that of S2 and S8 was 12 m south of that of S1. S7 was 8 m west of that of S8 while S4 was 24 m east of that of S7 and S6 was 16 m north of that of S7. S9 was situated just in the middle of S2 and S3 while S5 was just in the middle of S8 and S4.

At this point we can easily create a rough map of the location of these shops:



30. After decoding the options, we get:

$S9\$S2\#\$S6 \rightarrow S2$  is to the west of  $S9$  and  $S6$  is to the northwest of  $S2$ .

$S2@\$S7 \rightarrow S7$  is to the southwest of  $S2$

$S2@\$S4 \rightarrow S4$  is to the southeast of  $S2$

Here, we can see that all of the options follow with the figure we made.

Hence, the correct answer is option A.

31. After decoding the options, we get:

$S8\#S10 \rightarrow S10$  is to north of  $S8$ .

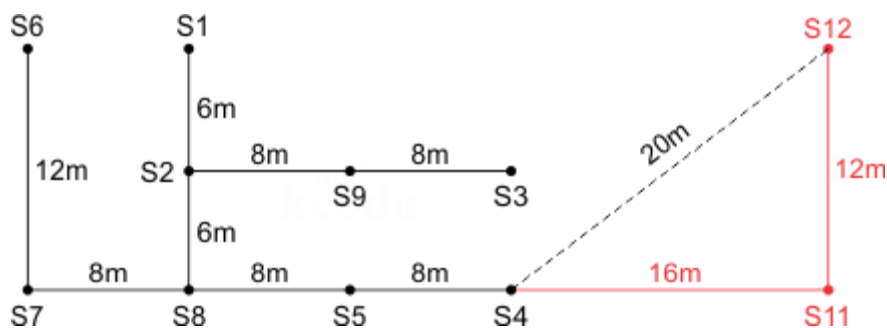
$S4\#\$S10 \rightarrow S10$  is to the northwest of  $S4$

$S7\#\%S10 \rightarrow S10$  is to the northeast of  $S7$

Here, we can see that all of the options follow with the figure we made.

Hence, the correct answer is option C.

32. Following the final solution and applying the given conditions we can redraw the final figure as:



Here, the shortest distance between  $S4$  and  $S12$  is 20 m.

Hence, the correct answer is option B.

## Common Explanation (33 to 35):

### Reference:

Six persons – Reema, Naina, Suman, Ankit, Harish and Plash, each having a different age were sitting on the different benches in a park situated at some distance from each other.

### Inference:

We will keep this information in mind while solving the puzzle.

### Reference:

Ankit was older than both Harish and Plash.

Harish was younger than only one person.

Oldest person was sitting 15 m north of Naina.

### Inference:

Using the above hints we can say that Ankit was the oldest person and was sitting 15 m to the north of Naina.

### Decreasing order of age:

Ankit > Harish > \_\_\_\_ > \_\_\_\_ > \_\_\_\_ > \_\_\_\_

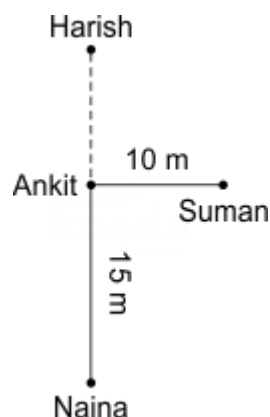
### Reference:

Suman was sitting 10 m east of person Ankit.

Ankit was sitting somewhere in between Harish and Naina vertically.

### Inference:

With the help of above hints we can draw a following figure:



### Decreasing order of age:

Ankit > Harish > \_\_\_\_ > \_\_\_\_ > \_\_\_\_ > \_\_\_\_

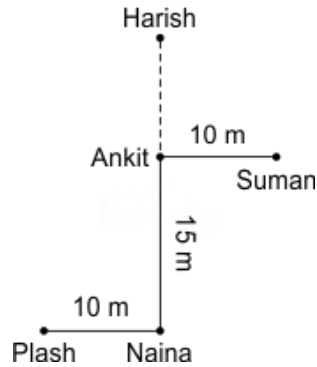
### Reference:

No person was sitting in west of Reema, Ankit, and Harish.

Plash was third oldest person among all the persons and was 10 m west of third youngest person.

**Inference:**

At this the only possible scenario in which we can fix the position of Plash is when Plash was seated 10 m to the west of Naina.



Here, we can say that Naina was third youngest person.

**Decreasing order of age:**

Ankit > Harish > Plash > Naina > \_\_\_\_ > \_\_\_\_

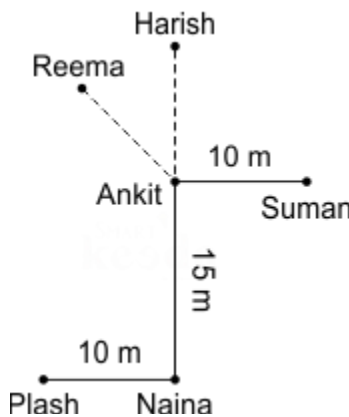
**Reference:**

Youngest person was sitting northwest of Ankit.



**Inference:**

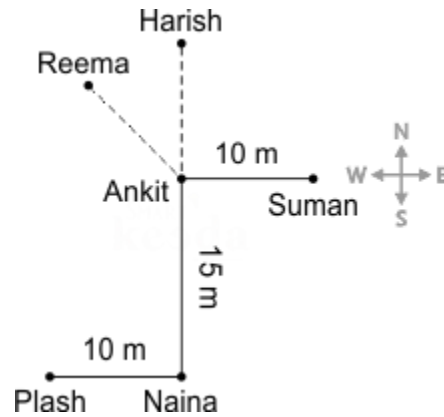
Here we can say that Reema was the youngest person.



**Decreasing order of age:**

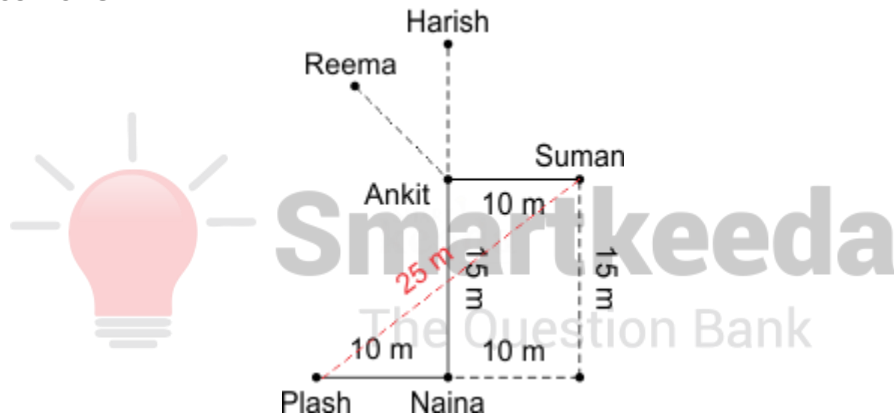
Ankit > Harish > Plash > Naina > Suman > Reema

33. Following the final solution we can say that Reema was in northwest direction with respect to the second youngest person.



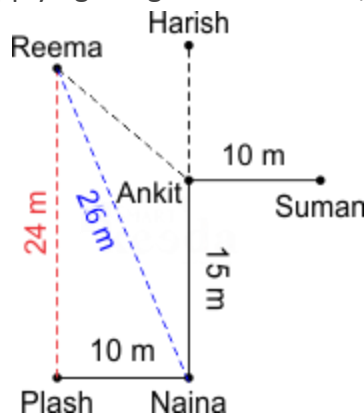
Hence, the correct answer is option E.

34. Following the final solution we can say that the shortest distance between Plash and the second youngest person is 25 m.



Hence, the correct answer is option B.

35. Following the final solution and applying the given conditions, we get:



Here, the shortest distance between third youngest and youngest person is 25 m.  
Hence, the correct answer is option D.



## Common Explanation (36 to 39):

### Reference:

Ashi was standing at the left end of the line.

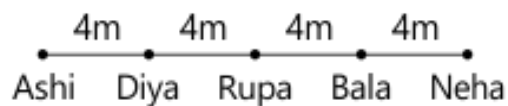
Two persons were standing between Ashi and Bala.

Diya stand second to the left of Bala.

Rupa was an immediate neighbor of Diya.

Only one person stands between Rupa and Neha.

### Inference:



Using the given hints we can fix the positions of all the five persons standing in the row.

### Reference:

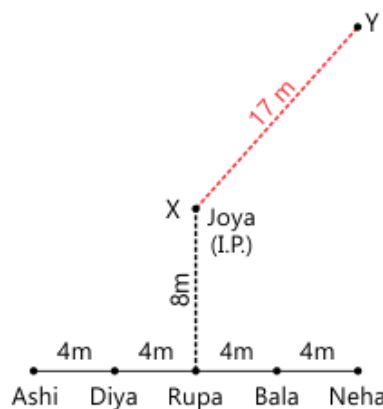
Joya starts walking from point X which was 8 m in north from Rupa.

Joya moves 17 m in north-east direction to reach point Y.

Point Y and Neha were inline vertically.

### Inference:

Here, in the figure below the path of Joya is denoted by Red colour, and I.P. and F.P. means initial position and final position of the person.



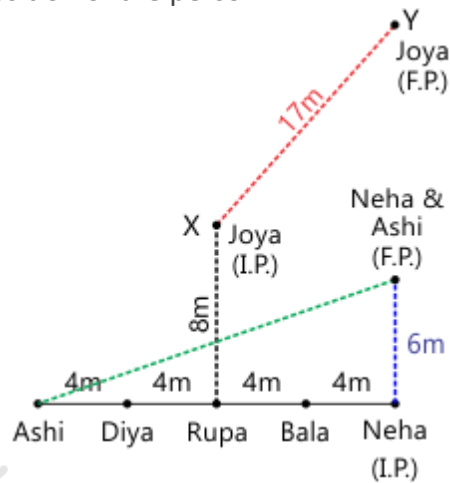
**Reference:**

Neha moves 6 m in the north direction and stops at point Z.

Person Ashi moves in the direction to point Z.

**Inference:**

In the figure below, the path of Neha and Ashi is denoted by Blue and green colour respectively, and I.P. and F.P. means initial position and final position of the person.



**36.** Following the figure we made using the given information we can say that the shortest distance between the initial position of Neha and final position of Joya =  $(15 + 2 + 6) \text{ m} = 23 \text{ m}$ .

Hence, the correct answer is option D.

**37.** Following the figure we made using the given information we can say that initial position of Joya was in North – West direction with respect to final position of Ashi.

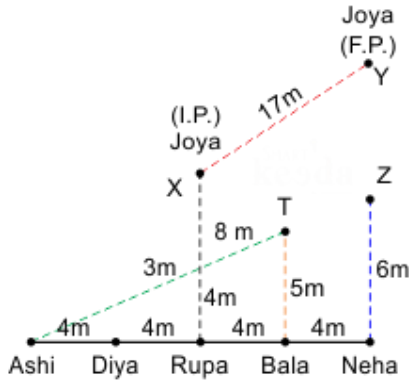
Hence, the correct answer is option C.

**38.** Following the figure we made using the given information we can say that the shortest distance between final position of Ashi and initial position of Joya =  $(8^2 + 2^2)^{1/2} \text{ m} = 2\sqrt{17} \text{ m}$

Hence, the correct answer is option A.



39. Following the figure we can say that the shortest distance between initial and final position of Ashi is 13 m.



Note- T is the final position of Ashi as per the question.

$$= \sqrt{(12)^2 + (5)^2} = \sqrt{169} = 13$$

Hence option C is correct.

### Common Explanation (40 to 42):

#### Reference:

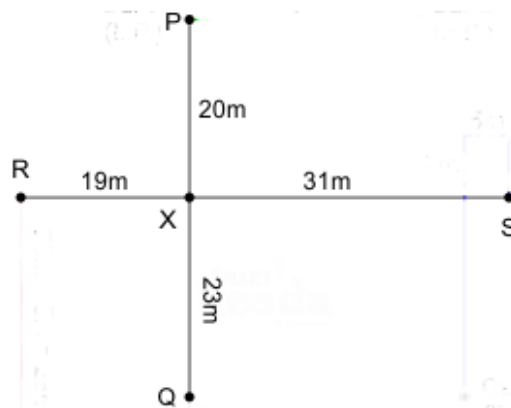
There is PQ axis in such a way that P is in north and Q is in south direction.

There is RS axis in such a way that R is in west direction and S is in east direction. PQ axis and RS axis intersect at a point X in such a way that PX is 20 m,

XQ is 23 m, XR is 19 m, XS is 31 m.

#### Inference:

Using the given hints we can create a following figure:

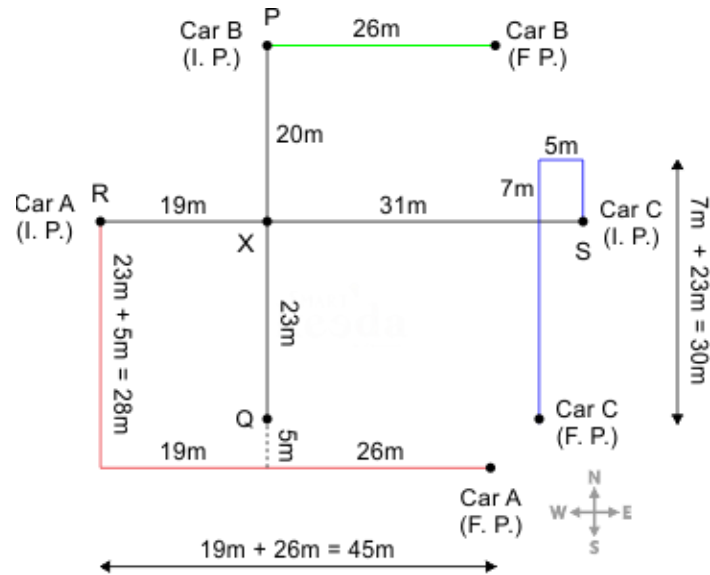


#### Reference:

Car A starts from point R and travels 28 m in south direction and then it takes a left turn and travels 45 m. Car B starts from point P and travels 26 m in east direction. Car C starts from point S and travels 7 m in north direction and then it takes a left turn and travel 5 m and again it takes a left turn and travels 30 m.

**Inference:**

Here, the paths of car A, car B and car C will be denoted by red, blue and green colour respectively.



In the above figure I.P. means initial position and F.P. means final position.

40. Following the figure we made using the given information we can say that the shortest distance between the final positions of car A and car B =  $(5 + 23 + 20) \text{ m} = 48 \text{ m}$ .

Hence, the correct answer is option C.

41. Following the figure we made using the given information we can say that point R is in North – West direction with respect to the final position of car A.

Hence, the correct answer is option E.

42. Following the figure we made using the given information we can say that car C is in South – East direction with respect to point P.

Hence, the correct answer is option B.



## Common Explanation (43 to 45):

### References:

Point A is 4m east of Point D.

The distance between Point B and Point E is 5m.

The distance between Point B and Point E is half the distance between Point A and Point E.

Point DAE is in a straight line.

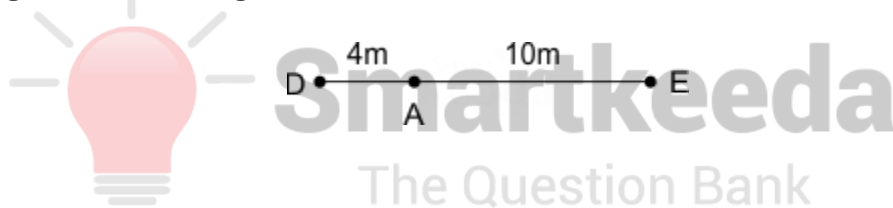
### Inferences:

Given, Distance between (Point B to Point E) = 5m

Given, Distance between (Point B to Point E) =  $\frac{1}{2}$  [Distance between (Point A to Point E)]

Therefore, Distance between (Point A to Point E) =  $5\text{m} \times 2 = 10\text{m}$

Point DAE is in a straight line. Thus we get



### References:

Point B is in north east from Point A.

The distance between Point B and Point E is 5m.

Point E is north of Point G and is in south west of Point C.

Point BEG lies in a straight line.

The distance between Point B and Point E is one-third the distance between Point E and Point G.

### Inferences:

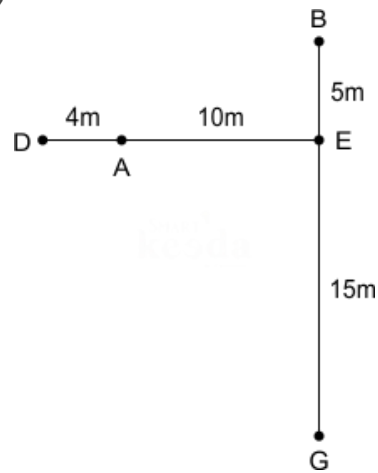
By using above information, we get,

Given, Distance between (Point B to Point E) = 5m

Given, Distance between (Point B to Point E) =  $\frac{1}{3}$  [Distance between (Point E to Point G)]

Therefore, Distance between (Point E to Point G) =  $5\text{m} \times 3 = 15\text{m}$

Point BEG lies in a straight line. Thus we get,



**References:**

Point K is south east of Point B. Point B is west of Point C.

The distance between B and C is twice the distance between D and A.

The distance between B and C is same as the distance between G and K and are in parallel lines.

Point E is north of Point G and is in south west of Point C.

**Inferences:**

By using above information, we get,

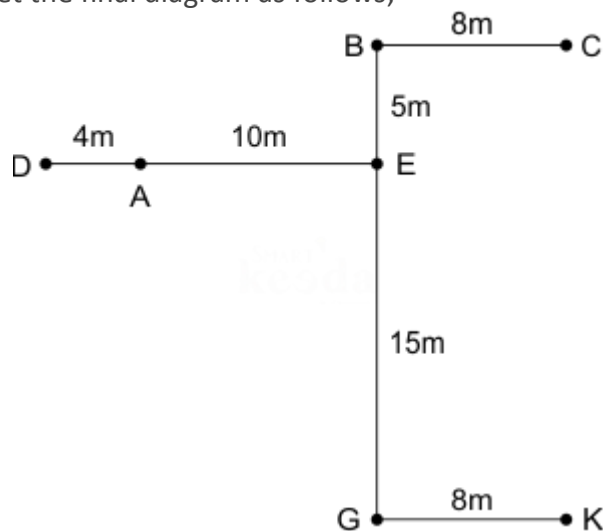
We know, Distance between (Point D to Point A) = 4m

Given, Distance between (Point B to Point C) = 2 [Distance between (Point D to Point A)]

Therefore, Distance between (Point B to Point C) =  $4m \times 2 = 8m$

Thus, Distance between (Point G to Point K) = 8m

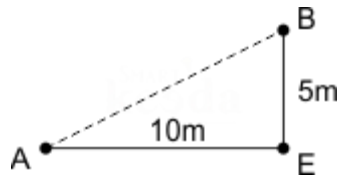
As per above information, we get the final diagram as follows,



43. The following common explanation, we get "South East".

Hence, option C is correct.

44. The following common explanation, we get "5√5m".



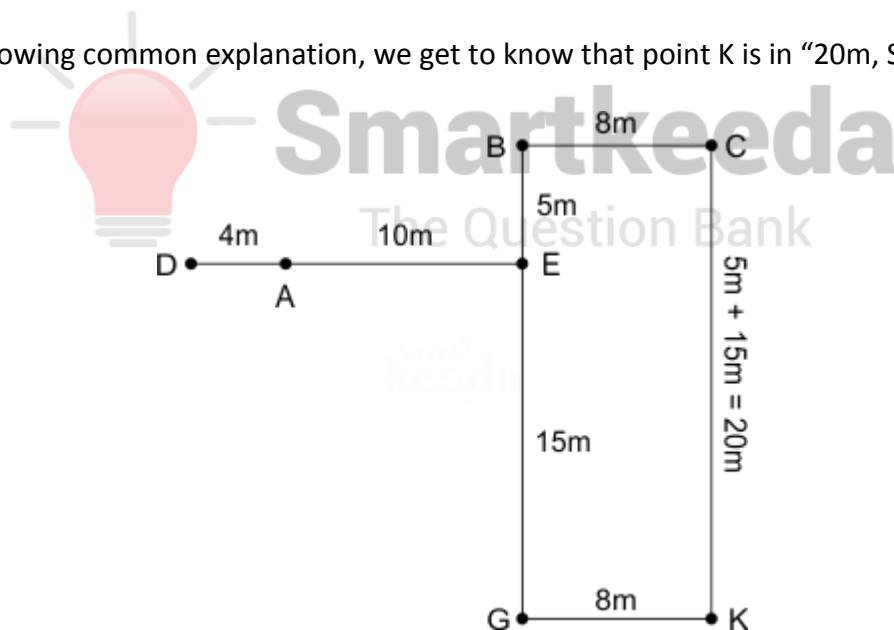
$$(AB)^2 = \sqrt{(AE)^2 + (BE)^2}$$

$$(AB)^2 = \sqrt{10^2 + 5^2} = \sqrt{100 + 25}$$

$$\text{Therefore } (AB) = \sqrt{125} = \sqrt{5 \times 25} = 5\sqrt{5}m$$

Hence, option D is correct.

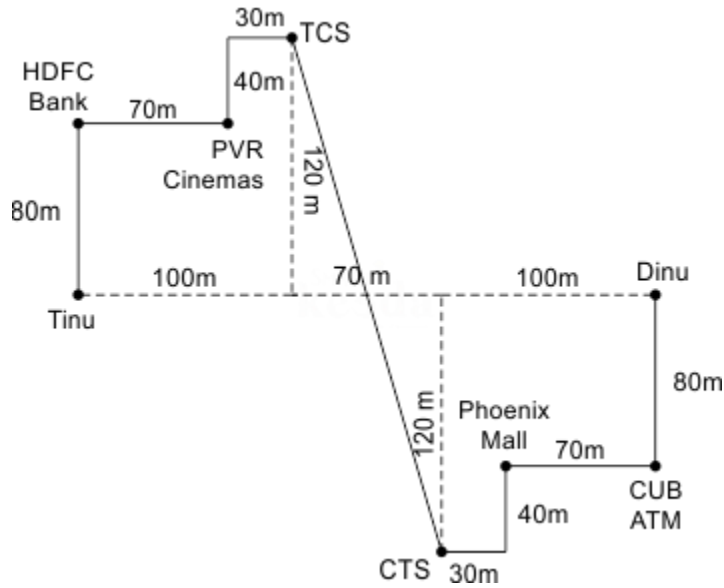
45. From the following common explanation, we get to know that point K is in "20m, South" from point C.



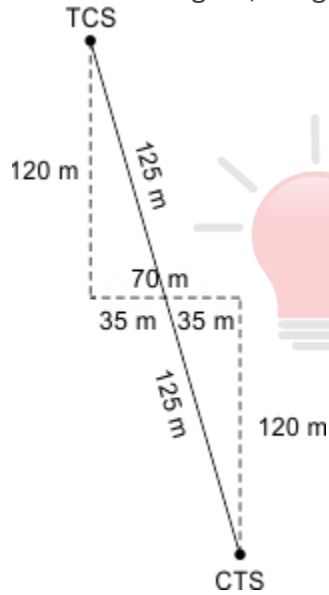
Hence, option B is correct.



46.



From above figure, we get,



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$$\sqrt{(120)^2 + (35)^2} = \sqrt{14400 + 1225} = \sqrt{15625}$$

$$\sqrt{15625} = 125\text{m [TCS to midpoint]}$$

Similarly we get

125 m from CTS to midpoint.

$$\text{Total Distance} = 125\text{ m} + 125\text{ m} = 250\text{ m}$$

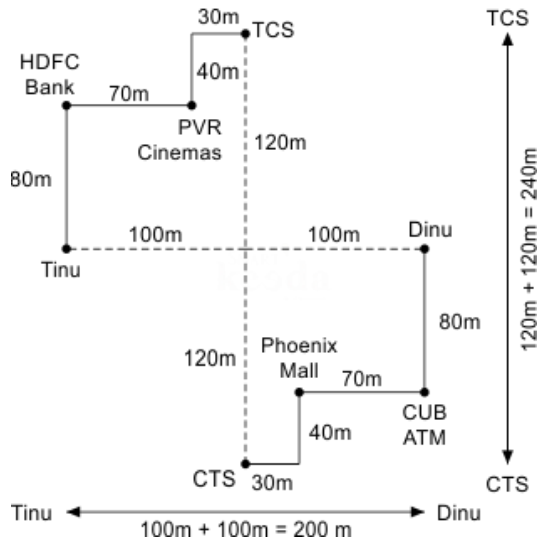
TCS is north-west direction with respect to CTS.

Hence, option A is correct.



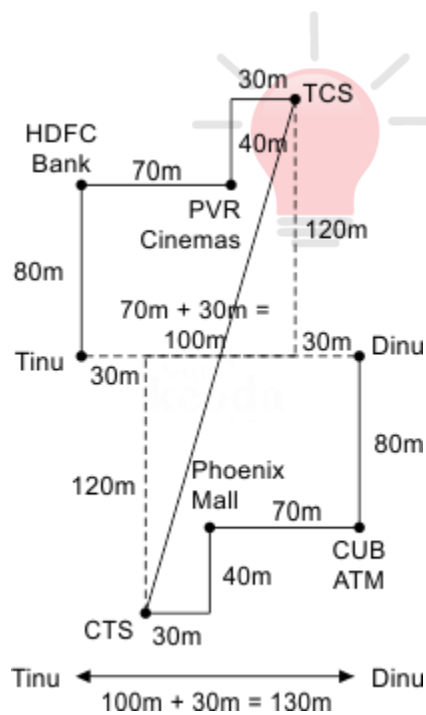
47. From fig, TCS is north direction with respect to CTS.

Total Distance = 120 m + 120 m = 240 m



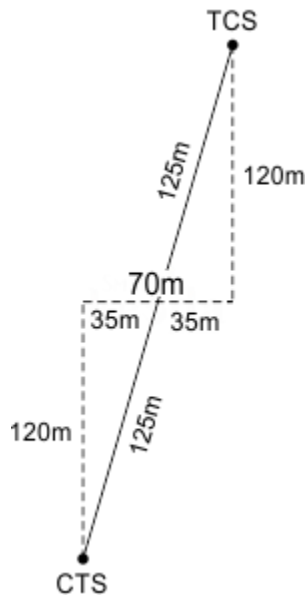
Hence, option C is correct.

48.



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From above figure, we get



$$\sqrt{(120)^2 + (35)^2} = \sqrt{14400 + 1225} = \sqrt{15625}$$

$$\sqrt{15625} = 125\text{m [TCS to midpoint]}$$

Similarly we get

From CTS to midpoint is 125 m.

Total Distance = 125 m + 125 m = 250 m

TCS is north-west direction with respect to CTS.

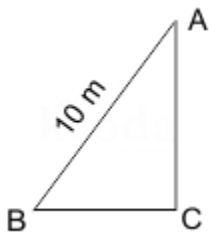
Hence, option B is correct.



### Common Explanation (49 to 50):

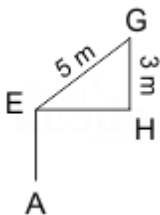
#### References

A is north-east of B. The shortest distance between A and B is 10 meter. C is south of A and east of B.



#### References

E is north of A. H is east of E. H is 3meter south of G. The shortest distance between G and E is 5 meter.



**[Figure 2]**

From, figure (2),

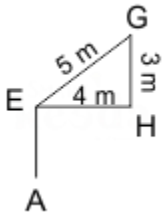
$$(EG)^2 = (EH)^2 + (HG)^2$$

$$(5)^2 = (EH)^2 + (3)^2 \Rightarrow 25 = (EH)^2 + 9$$

$$25 - 9 = (EH)^2 \Rightarrow 16 = (EH)^2$$

Therefore,

distance [E to H] = 4 meter



**References**

The distance between B and C is twice the distance between A and E.

The distance between A and C is twice the distance E and H.

**We know,**

Distance between E and H = 4 meter

**Given,**

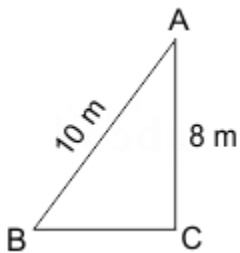
Distance [A to C] = 2 { Distance [E to H] }

Distance [A to C] = 2 × 4 = 8 meter

Thus we get fig 1 as,



**[Figure 3]**



From, figure (3),

$$(BA)^2 = (BC)^2 + (AC)^2$$

$$(10)^2 = (BC)^2 + (8)^2$$

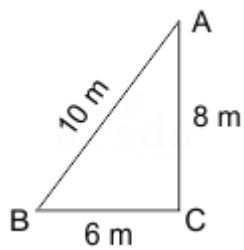
$$100 = (BC)^2 + 64$$

$$100 - 64 = (BC)^2$$

$$36 = (BC)^2$$

Therefore,

distance [B to C] = 6 meter



We know,

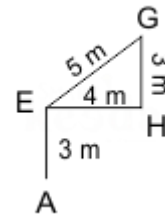
Distance between B and C = 6 meter

Given,

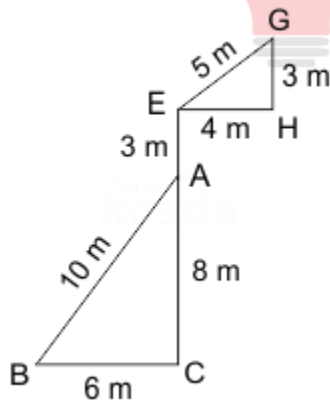
Distance [B to C] = 2 {Distance [E to A]}

6 meter = 2 {Distance [E to A]}

Distance [E to A] = 6 meter / 2 = 3 meter



Combining all figures, we get



49. The following common explanation, we get "5 meter".

From, figure,  $(AH)^2 = (EH)^2 + (AE)^2$

$$(AH)^2 = (4)^2 + (3)^2$$

$$16 + 9 = (AH)^2$$

$$25 = (AH)^2$$

$$AH = 5 \text{ meter}$$

Hence, option C is correct.

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**50.** The following common explanation, we get “12 meter”.

From figure, Distance [A to C] = 8 meter

Distance [E to H] = 4 meter.

Sum =  $8 + 4 = 12$  meter

Hence, option C is correct.



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