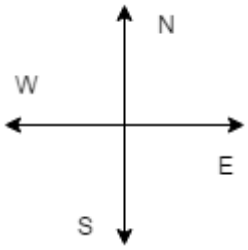
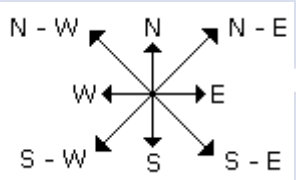
Directions

Points to remember:

1. There are four cardinal directions; East, West, North, and South as shown in the following image.



2. The cardinal directions are divided into four primary inter-cardinal directions; Northeast, Southeast, Southwest, and Northwest as shown in the following image.



3. At the time of sunrise, if a man stands facing the East, his shadow will form to the west.

4. At the time of sunrise, if a man stands facing the North, his shadow will form to his left.

5. At the time of sunrise, if a man stands facing the South, the shadow will form to his right.

6. At the time of sunrise, if a man stands facing the West, the shadow will form to the West.

7. At the time of sunset, if a man stands facing the North, his shadow will form to his right.

8. At the time of sunset, if a man stands facing the East, his shadow will form to the East.

9. At the time of sunset, if a man stands facing the sun, towards West, his shadow will form to the East.

10. At the time of sunset, if a man stands facing the South, his shadow will form to his left.

Some Questions Based On Directions

1). **A man is facing west. He turns 45° in the clockwise direction and then another 180° in the same direction and then 270° in the anti-clockwise direction. Which direction is he facing now?**

A) South
B) North-west
C) West
D) South-west
E) None of these

Correct Option: D

Shortcut Approach:

Total movement in Clockwise direction = 45 + 180 = 225 degrees

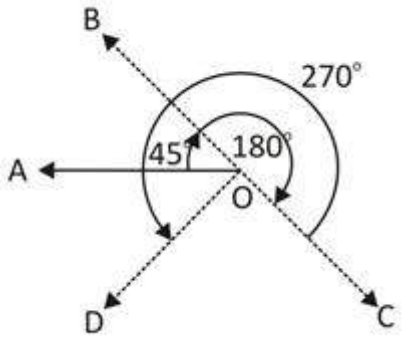
Total movement in Anti-clockwise direction = 270 degrees

The difference = 270 - 225 = 45 degrees (towards anti-clock wise because the total degrees in anti-clockwise is more than that of clockwise direction)

So, 45 degrees in anti-clockwise direction from the West will be: South-West.

Option D is hence the correct answer.

Traditional Method:



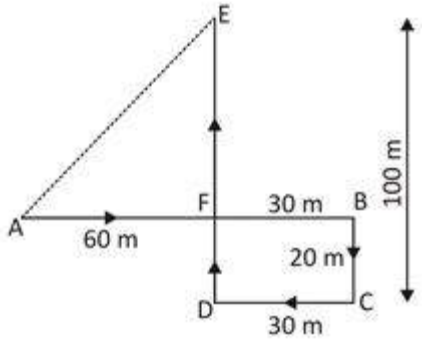
Clearly the man initially faces in the direction OA. On the moving 45 Degree clock wise, he faces in the direction OB . on further moving 180 degree clockwise, he faces in the direction OC. Finally, on moving 270 degree anti-clockwise, he faces in the direction OD, which is south-west.

Hence, option D is correct.

2). A child is looking for his father. He went 90 metres in the east before turning to his right. He went 20 metres before turning to his right again to look for his father at his uncle's place 30 metres from this point. His father was not there. From there, he went 100 metres to his north before meeting his father in a street. How far did the son meet his father from the starting point?

A) 80 m
B) 100 m
C) 140 m
D) 180 m
E) 260 m

Correct Option: B



Clearly, the child moves from A 90 m east-wards up to B, then turns right and moves 20 m up to C, then turns right and moves 30 m up to D. Finally , he turns right and moves 100 m up to E. Clearly, AB = 90m , BF = CD = 30 m SO, AF = AB – BF = 60 m. Also, DE = 100 m, DF = BC = 20 m So, EF = DE – DF = 80 m.

So, His distance from starting point A = AE = (AF2 + EF2)

⇒ (60)2 + (80)2 = 3600 + 6400

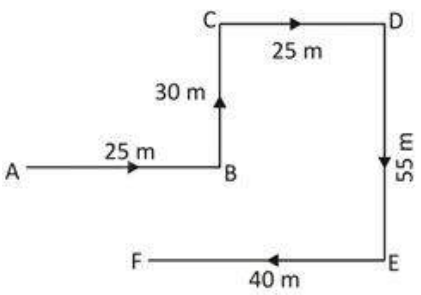
⇒ 10000 = 100 m.

Hence, option B is correct.

3). **Kailash faces towards north. Turning to his right, he walks 25 metres. He then turns to his left and walks 30 metres. Next, he moves 25 metres to his right. He then turns to his right again and walks 55 metres. Finally, he turns to the right and moves 40 metres. In which direction is he now from his starting point?**

A) South-west
B) South
C) North-west
D) South-east
E) None of these

Correct Option: D



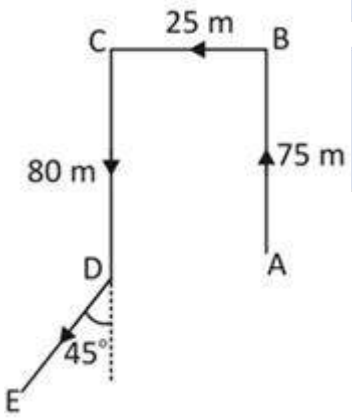
Kailash turns right from north direction. So, hr walks 25 m towards east up to B, turns left and moves 30 m up to C, turns right and goes south and walks 55 m up to E. Next, he again turns to right and walks 40 m up to F, which is his final position. F is to the south–east of A. So , he is to the south-east from his starting point .

Hence, option D is correct.

4). Deepa moved a distance of 75 metres towards the north. She then turned to the left and walking for about 25 metres, turned left again and walked 80 metres. Finally, she turned to the right at an angle of 45°. In which direction was she moving finally?

A) North-east
B) North-west
C) South
D) South-east
E) South-west

Correct Option: E



Deepa started from A, Moved 75 m up to B, turned left and walked 25 m up to C. She turned left again and moved 80 m C to D. Turning to the right at angle of 45° , she was finally moving in the direction DE i.e, South- west.

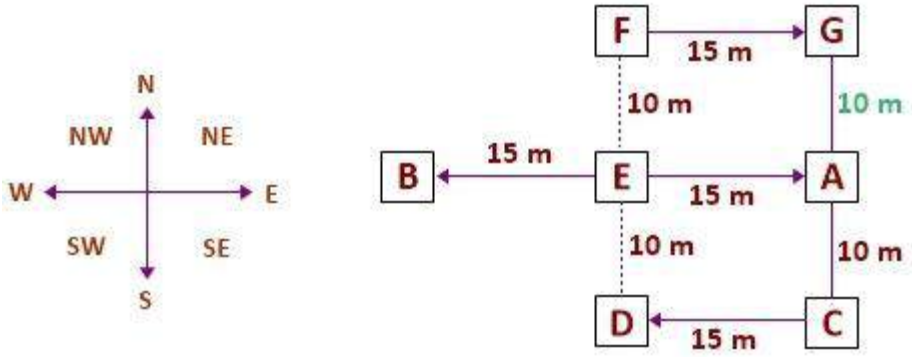
Hence, option E is correct.

5). Point A is 30 m to the east of point B. Point C is 10 m to the south of point A. Point D is 15 m to the west of point C. Point E is exactly in the middle of the points D and F. Points D, E and F lie in a straight line. The length of the DEF is 20 m. Point F is to the north of point D. Point G is 15 m to the east of Point F. How far and in which direction is point G from point A?

A) 10 m, South
B) 15 m, North
C) 10 m, North
D) 10 m, East

E) None of these

Correct Option: C



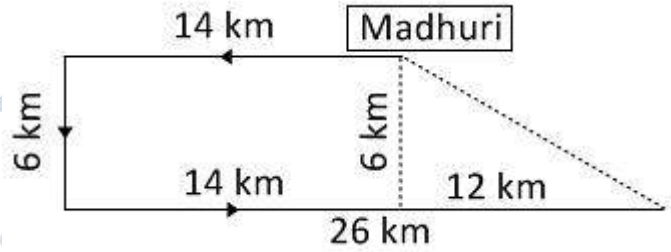
It's clear from the diagram that point G is 10 m to the north of point A.

Hence, option C is correct.

6). Madhuri travels 14 km Westwards and then turns left and travels 6 km and further turns left and travels 26 km. How far is Madhuri now from the starting point?

A) √180 km
B) √80 km
C) √100 km
D) None of these

Correct Option: A



By the Pythagoras, AB = AC2 + BC2 = 62 + 122 = 180 km.

Hence, option A is correct.

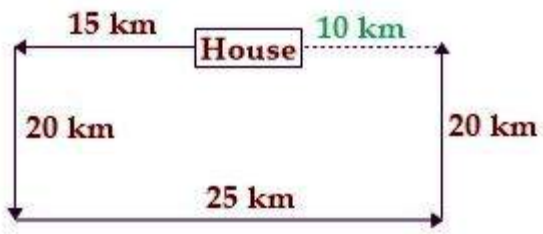
7). **Sohan drove 15 km to the west from his house, then turned left and drove 20 km. He then turned east and drove 25 km and finally turning left covered 20 km. How far he is from his house?**

A) 40 km
B) 80 km

C) 5 km

D) 10 km

Correct Option: D



It's clear from the diagram that Sohan's distance = 10 km.

Hence, option D is correct.

8). From the finishing point if you have to reach the point from where you started, in which direction will you have to run?

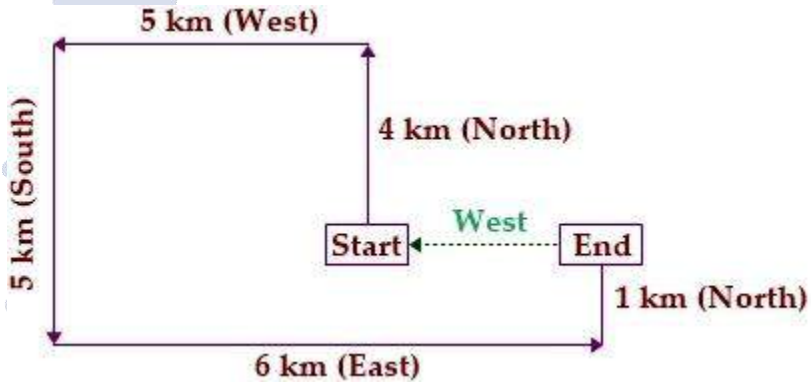
A) North

B) South

C) East

D) West

Correct Option: D



Therefore, it's clear from the diagram that you have to run in west direction.

Hence, option D is correct.

9). Shahrukh starts driving from point A and drives 12 km towards north. He takes a right turn and drive 20 km. He now drives 8 km after taking a left turn. Finally he takes a left turn; and drives 20 km and stops at point B. How far is point A with respect to point B?

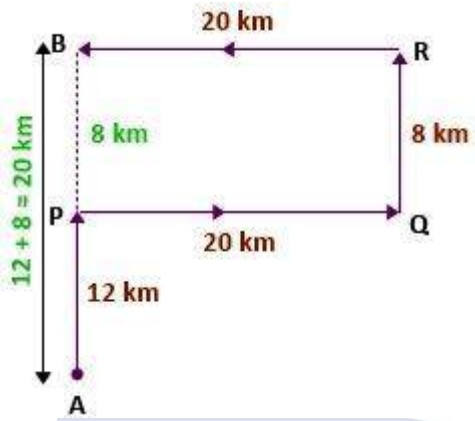
A) 18 km

B) 20 km

C) 35 km

D) 25 km

Correct Option: B



AB = AP + PB = 12 + 8 = 20 km,

Hence, option B is correct.

10). Shahrukh starts driving from point A and drives 12 km towards north. He takes a right turn and drive 20 km. He now drives 8 km after taking a left turn. Finally he takes a left turn; and drives 20 km and stops at point B. Towards which direction does Shahrukh move before stopping at point B?

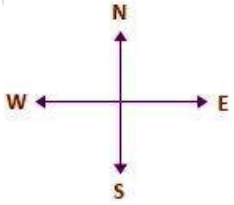
A) Northwest

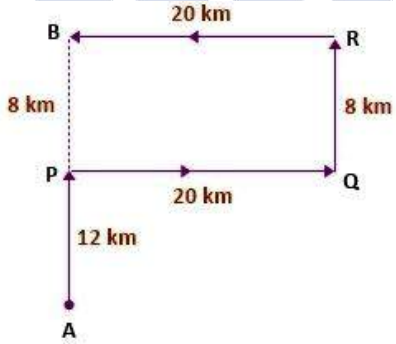
B) South

C) Southeast

D) West

Correct Option: D





It's clear from diagram that Shahrukh is moving towards west direction.

Hence, option D is correct.