MODULE 2 – DIRECTION SENSE TEST

1. Four friends Akshay, Bunty, Chanti, and Deepu live in the same locality. Their house of Bunty is to the east of Akshay's house but to the north of Chanti's house. The house of Chanti is to the west of Deepu's house. Deepu's house is in the direction of Akshay's house?
(a) South-East (b) North-East (c) East (d) Data is inadequate
Solution:

N

Akshay Bunty

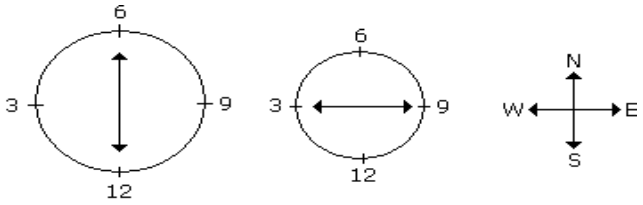
W E

Chanti Deepu

S

Therefore, Deepu's house is in the South-East direction of Akshay.

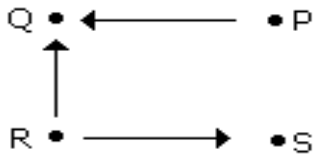
2. Rahul put his timepiece on the table in such a way that at 6 P.M. hour hand points to North. which direction the minute hand will point at 9.15 P.M.?
(a) South-East (b) South (c) North (d) West
Solution:



At 9.15 P.M., the minute hand will point towards west.

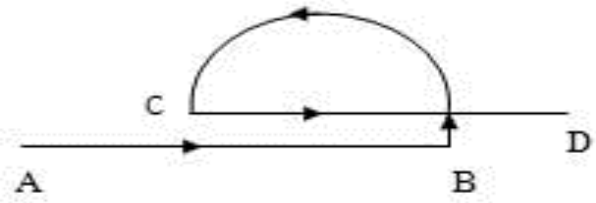
3. If A x B means A is to the south of B; A + B means A is to the north of B; A % B means A is to the east of B; A - B means A is to the west of B; then in P % Q + R - S, S is in which direction with respect to Q?
(a) South-West b) South-East (c) North-East (d) North-West
Solution:

According to P % Q + R - S



S is in the South-East of Q.

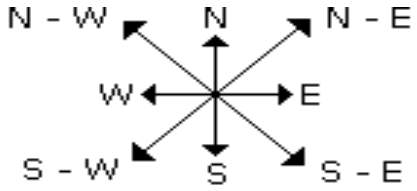
4. A river flows West to East and on the way turns left and goes in a semi-circle round a hillock, and then turns left at right angles. In which direction is the river finally flowing?
(a) North (b) South (c) East (d) West
Solution:

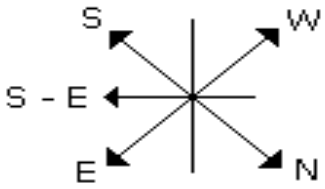


The river flows eastwards from A towards B, turns left, and follows a semi-circular path to reach C where it turns left and flows eastwards towards D. Hence, it is moving in the east direction.

5. If the South-East becomes North, North-East becomes West, and so on. What will the West become?
a) South-East (b) North-West (c) North-East (d) South-West

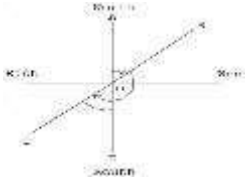
Solution:





It is clear from the diagrams that new name of West will become South-East.
It is clear from the diagrams that the new name of West will become South-East.

6. A man is facing north. He turns 45 degrees in the clockwise direction and then another 180 degrees in the same direction and then 45 degrees in the anticlockwise direction. Which direction is he facing now?
(a) North (b) East (c) West (d) South
Solution:

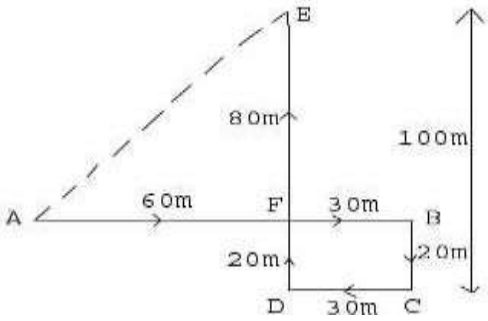


The man first faces the direction OA. On moving 45 degrees clockwise, he faces the direction OB. Now again he moved 180 degrees clockwise, now he will be facing OC. From here he moved 45 degrees anticlockwise; finally, he is facing OD, which is the South direction.

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

(a) 80 m (b) 90 m (c) 100 m (d) 110 m

Solution:



Clearly, the child moves from A to B 90 meters eastwards upto B, then turns right and moves 20 meters upto C, then turns right and moves upto 30-meter upto D. Finally he turns right and moves 100 meters upto E.

So AB = 90 meters, BF = CD = 30 meters,

So, AF = AB - BF = 60 meters Also

DE = 100 meters, DF = BC = 20 meters

So, EF = DE - DF = 80 meters

as we can see in the image that triangle AFE is a right-angled triangle and we are having two sides, need to calculate third one, so we can apply Pythagoras theorem here

$AE = AF2+EF2$

$= 602+802$

$= 3600+6400$

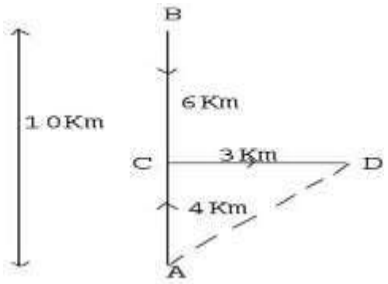
$=10000$

AE = 100 m

8. Kunal walks 10 km toward the North. From there he walks 6 Km towards the South. Then, he walks 3 Km towards the east. How far and in which direction is he with reference to his starting point?

(a) 5 Km North (b) 5 Km South (c) 5 Km East (d) 5 Km North - East

Solution:

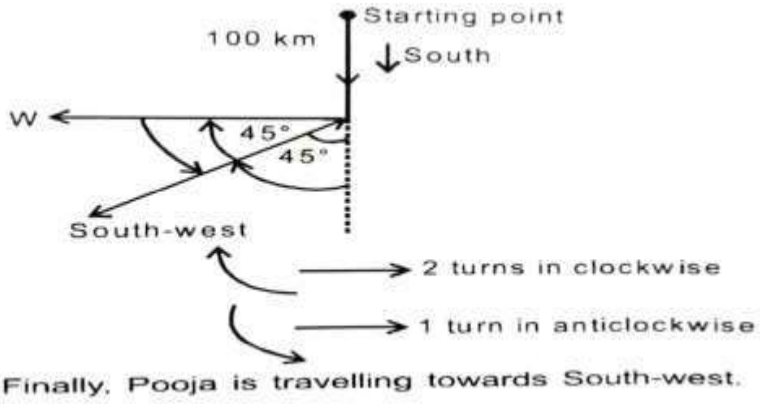


Clearly, Kunal moves from A 10 Km northwards upto B, then moves 6 Km southwards upto C, turns towards east and moves 3 km up to D.
Then AC = (AB-BC) = 4 Km
So Kunal distance from starting point A
AD = $AC2+CD2$
$= 42+32$
$= 16+9$
$=25$

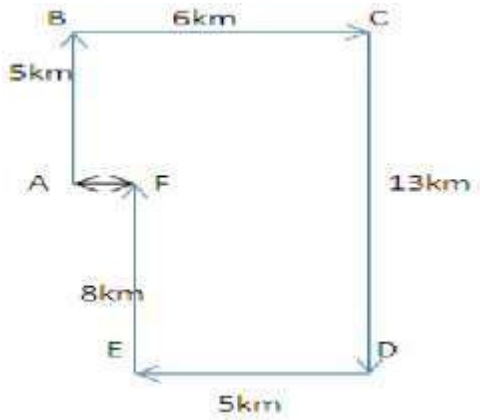
AE = 5 m
So AD is 5 Km also with reference to the starting point Kunal's direction is North-East.

9. One evening before sunset two friends Amit and Gaurav were talking to each other face to face. If Gaurav's shadow was exactly to his left side, which direction was Amit facing?
(a) North (b) South (c) West (d) Data Inadequate
Solution:
Since Gaurav and Amit are standing face to face, if Gaurav's shadow is to the left of Amit, it would be to the right of Gaurav.
Now remember the point about shadows above:
1. If a man faces north, his shadow will be on his left during sunrise and on his right during sunset.
2. Similarly, if a man faces south, his shadow will be on his right during sunrise and on his left during sunset.
We know from the question that it is sunset and the shadow is to the left of Gaurav.
Using point 2 above, Gaurav is facing south. Hence, Amit is facing north.

10. Pooja traveled 100 km towards the South, then she took two turns of 45° each in a clockwise direction, and then she took one turn of 45° in the anti-clockwise direction. In which direction was she traveling finally?
(a) West (b) North (c) South-east (d) South-west
Solution:



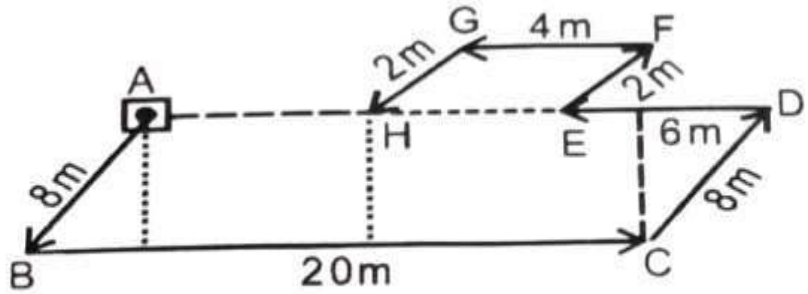
11. Ranjith cycles 5km north, 6 km east, 13 km south, and 5km west, 8 Km north. How far is Ranjith from his initial point?
a)2Km b)1Km c)3Km d)0Km
Solution:



12. Ganesh cycles towards the South-West a distance of 8 m, then he moves towards the East a distance of 20 m. From there he moves towards North East a distance of 8 m, then he moves towards the West a distance of 6 m. From there he moves towards the North-East a distance of 2 m. Then he moves towards the West a distance of 4 m and then towards the South-West 2 m and stops at that point. How far is he from the starting point?

(a) 12 m (b) 10 m (c) 8 m (d) 6 m

Solution:

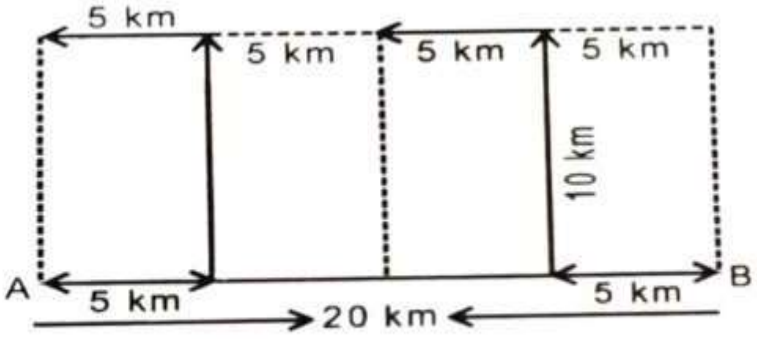


AH = 20 – (4 + 6) = 10 m.

13. A is standing 20 km to the West of B on a straight road. A and B start walking simultaneously eastwards and westwards respectively and both cover a distance of 5 km. Then A turns to his left and walks 10 km. B turns to his right and walks 10 km at the same speed. Then both turn to their left and cover a distance of 5 km at the same speed. What will be the distance between them?

(a) 10 km (b) 30 km (c) 20 km (d) 25 km

Solution:

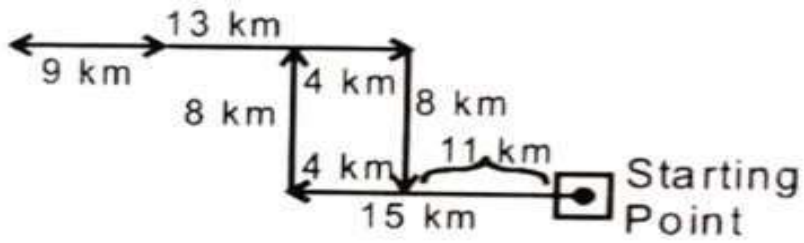


Required distance = 5 + 5 = 10 km.

14. Sujit traveled 15 km to the west, then turned right and traveled 8 km. He turned left and traveled 9 km, then turned back and traveled 13 km. Then he turned right and traveled 8 km. How far is he from the starting point?

(a) 17 km (b) 9 km (c) 11 km (d) 7 km

Solution:

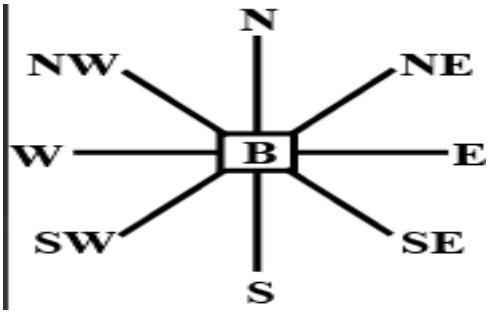


It is clear from the diagram that Sujit is 11 km away from the starting point.

15. Riya is standing at point B, facing South-West. She turns 315 degrees in the clockwise direction. Which direction will she be facing now?

(a) West (b) South- East (c) South- West (d) South

Solution:



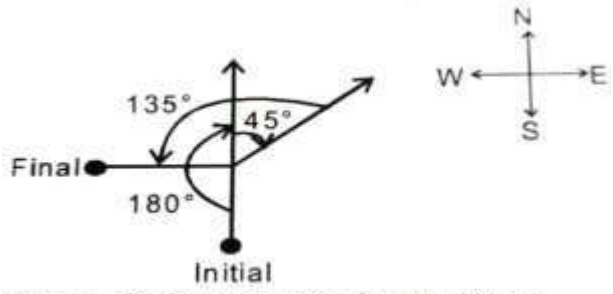
To get to the required direction we can rotate 315 degrees clockwise or (360 − 45)degrees = (45)degrees anti-clockwise

so by turning 45 degrees counter-clockwise Riya will be facing SOUTH.

16. Rajesh is facing the South. He turns 180° followed by a turn of 45° in a clockwise direction. If he takes another turn of 135° in an anti-clockwise direction, then which direction is he facing now?

(a) East (b) North (c) South (d) West

Solution:

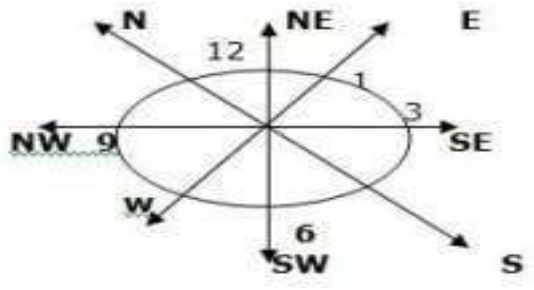


Hence, Rajesh is now facing West.

17. If 3 O'clock in a watch. If the minute hand points towards the North east then the hour hand will point towards.

(a) Southwest (b) Southeast (c) Northwest (d) Northeast

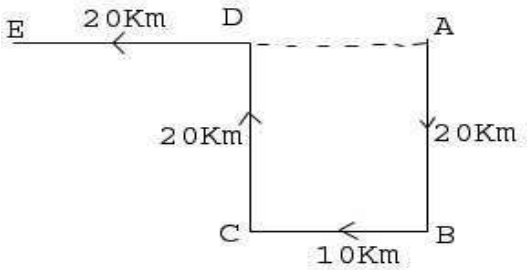
Solution:



18. One day, Raviraj left home and cycled 20 Km southwards, turned right and cycled 10 km and turned right and cycled 20 Km and turned left and cycled 20 Km. How many kilometers will he have to cycle to reach his home straight?

(a) 50 Km (b) 30 Km (c) 40 Km (d) 60 Km

Solution:



Raviraj starts from home at A, moves 20 Km in the south upto B. Then he turns right and moves 10 Km upto C, then he turns right and moves 20 Km up to D, then he turns left and moves 20 Km upto E.

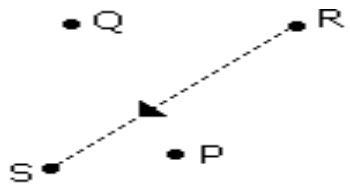
So from the image it is clear that, if he moves straight then he will have to move AD+DE, AD = BC = 10 Km

So, he will have to move 10 + 20 = 30 Km

19. 13. Village Q is to the North of village P. Village R is to the East of Village Q. Village S is to the left of village P. In which direction is Village S with respect to Village R?

(a) West (b) South-West **(**c) South (d) North-West

Solution:



S is to the South-West of R.

20. One morning after sunrise, Suresh was standing facing a pole. The shadow of the pole fell exactly to his right. To which direction was he facing?

a) East (b) South (c) West (d) Data Inadequate

Solution:

Sun rises in the east in the morning. Since the shadow of Suresh falls to his right. So he is facing South.