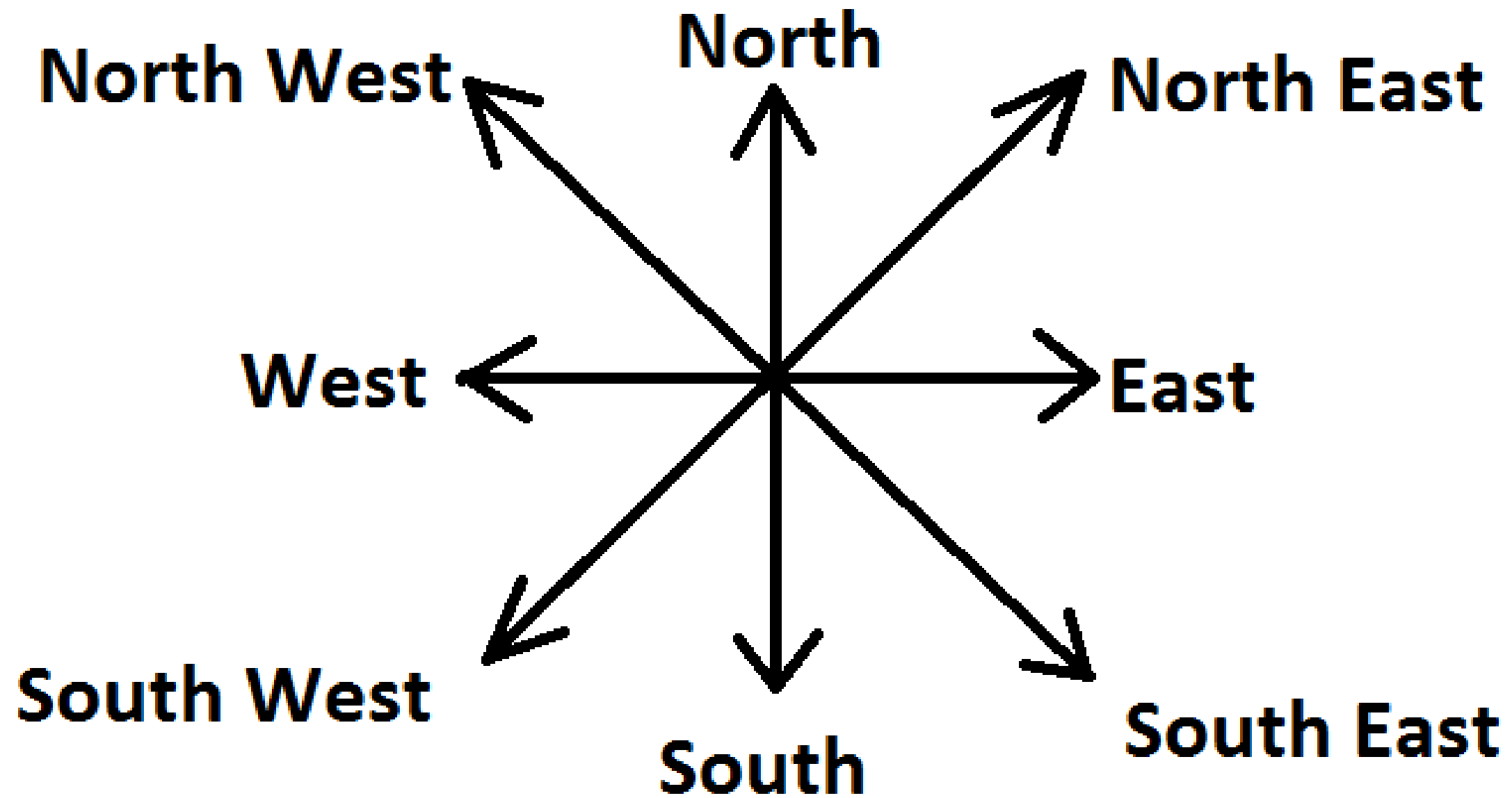


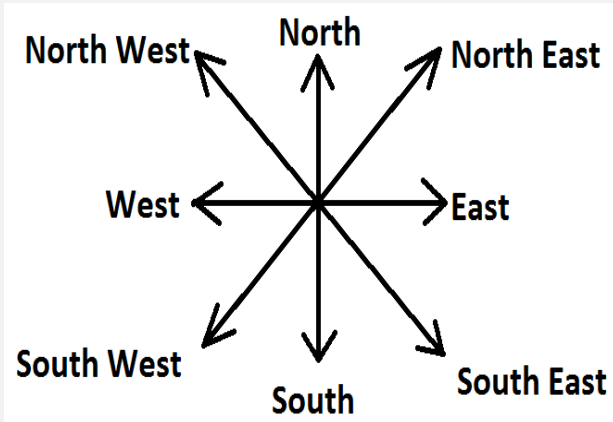
I HATED EVERY MINUTE OF
TRAINING, BUT I SAID,
'DON'T QUIT. SUFFER NOW
AND LIVE THE REST OF
YOUR LIFE AS A
CHAMPION.'

Muhammad Ali





TYPE 1



Sundar runs 20 m towards East and turns to right and runs 10 m. Then he turns to the right and runs 9 m. Again he turns to right and runs 5 m. After this he turns to left and runs 12 m and finally he turns to right and 6 m. Now to which direction is Sundar facing?

TYPE 2

$$a^2 + b^2 = c^2$$

(3, 4, 5) (6, 8, 10) (7, 24, 25)

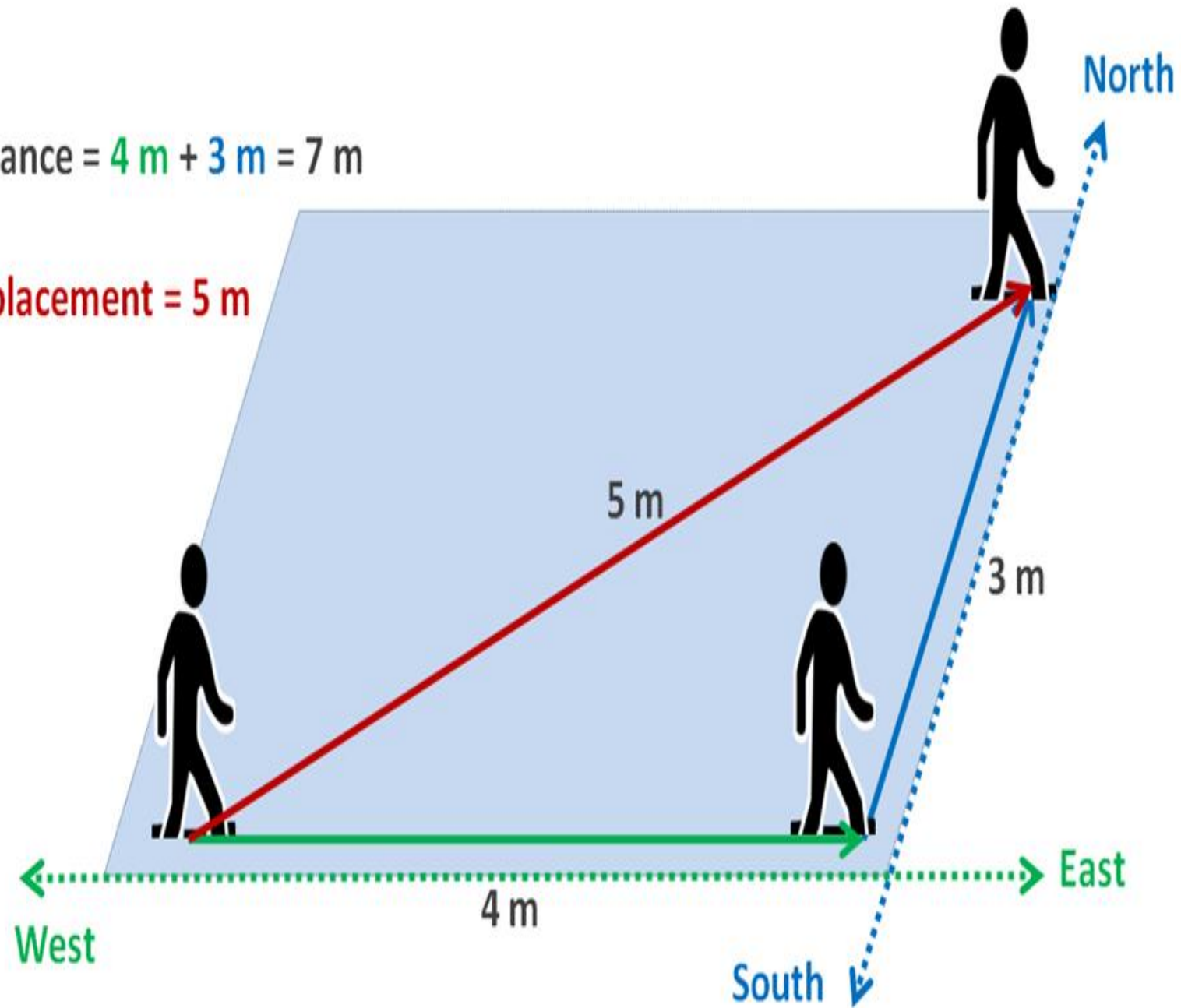
(5, 12, 13) (20, 21, 29) (8, 15, 17)

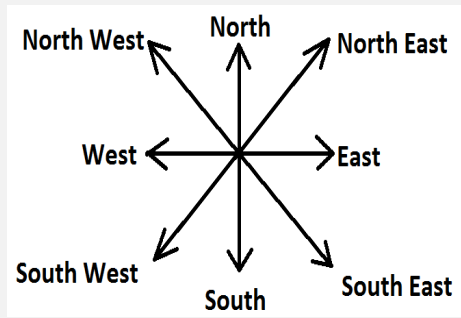
(20, 99, 101) (48, 55, 73) (17, 144, 145)

Pythagorean Triples

Distance = 4 m + 3 m = 7 m

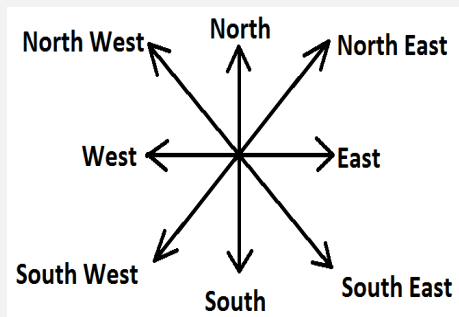
Displacement = 5 m





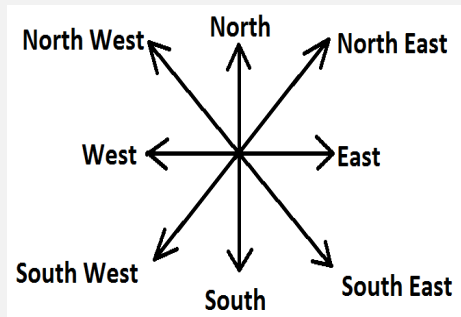
Raman walked 2km West from his office and then turned South covering 4km. Finally, he walked 3 km towards East and again move 1 km West. How far is Raman from his initial position?

Golu started from his house towards North. After covering a distance of 8 km. he turned towards left and covered a distance of 6 km. What is the shortest distance now from his house?



Rashmi walks 10 km towards North. She walks 6 km towards South then. From here she moves 3 km towards East. How far and in which direction is she with reference to her starting point?

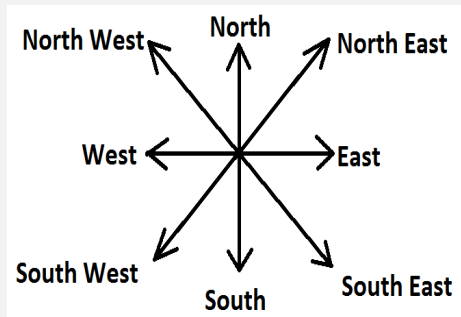
Ravi left home and cycled 10 km towards South, then turned right and cycled 5 km and then again turned right and cycled 10 km. After this he turned left and cycled 10 km. How many kilometers will he have to cycle to reach his home straight?



If a boy moves from his house to his school that is 20m from his home towards south. He goes in the north direction thinking it south direction and walks for 20 m, until he realizes his mistake. How much more distance and in which direction he must walk in order to reach the actual destination?

A lady runs 12 km towards north. Then 6 km towards south and 8 km towards east. How far is she from her starting point and in which direction?

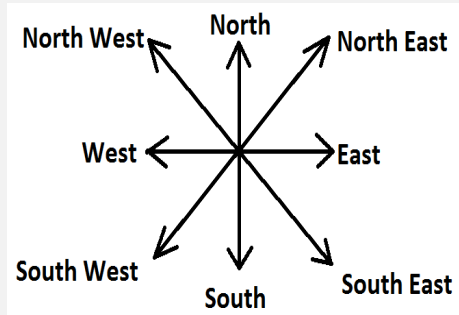
- (1) NE – 20 km (2) NE – 15 km (3) NW – 10 km (4) NE – 10 km (5) None of the above



A man travels 2 km to the north and turns east and travels 10 km and again he turns north and travels 3 km and again turns to east and travels 2 km. How far is he from the starting point?

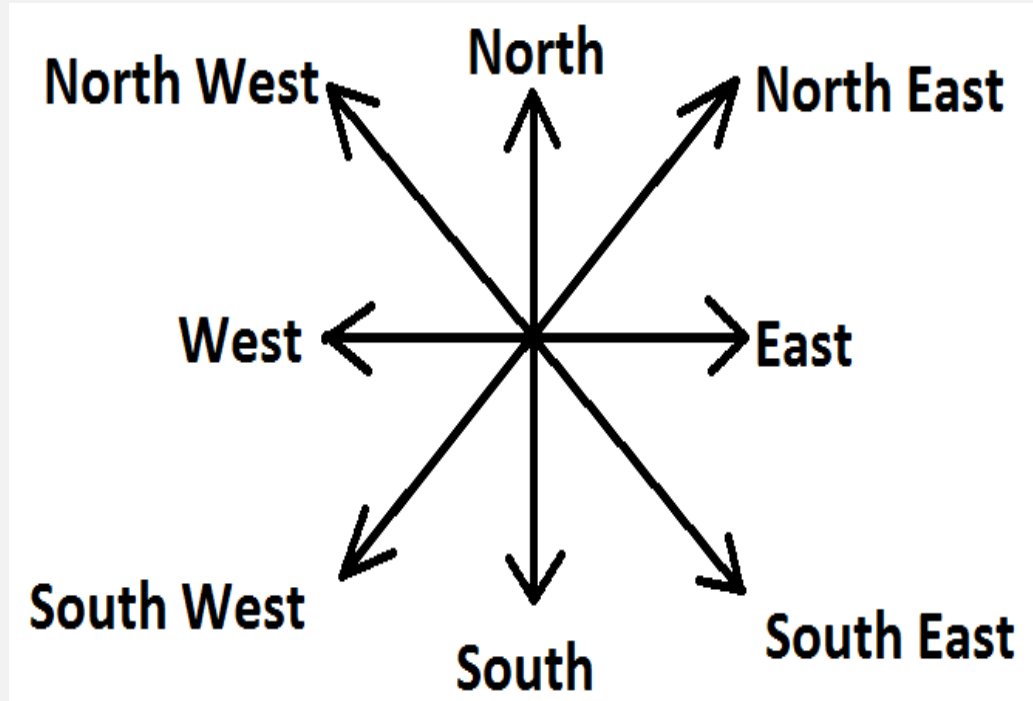
- (a) 10km (b) 13km (c) 15km (d) 17km
(e) none of these

A school driver drives school bus in north direction for a distance of 2km. Then he turns the bus left side and drives 5km straight. Then he turns bus in left side twice for a distance of 8km and 5km respectively. At last once more he took left turn and go for a distance of 1 km. How far is he from the starting point and in which direction he should drive for reaching starting point?



Q .A person is walking towards west for 25m later he turns left and walks 30 meters. Again he takes left and walks 50 meters. Later he takes left and walks 38 meters. Finally he walks 21 meters to his left. How far is he from the starting point and in which direction?

TYPE 3



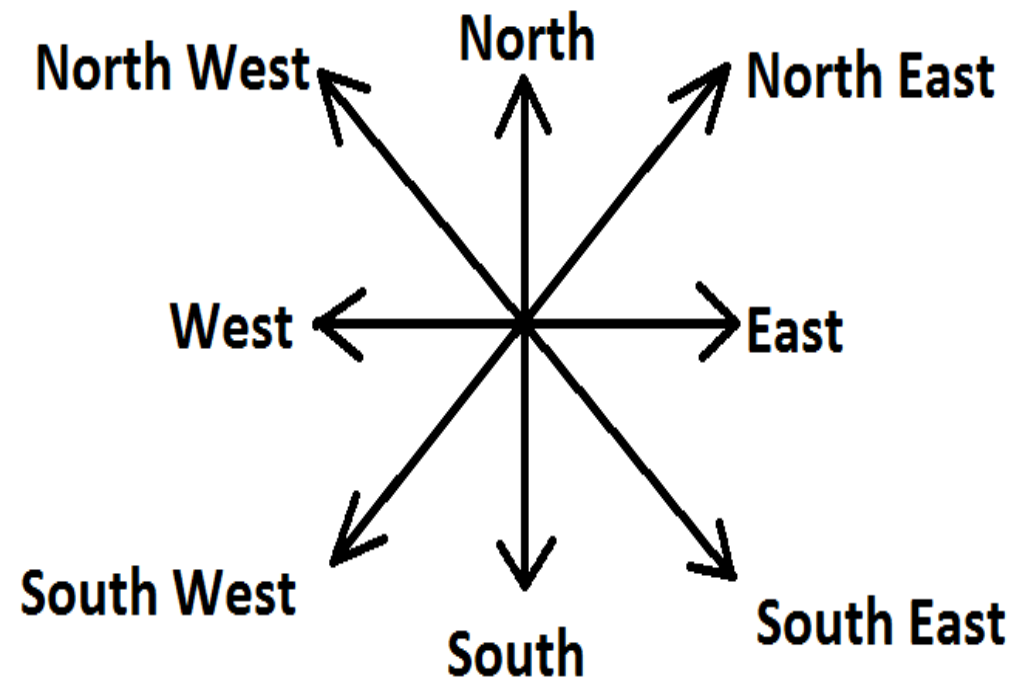
Shiva is facing N, he turns 180° and 45° in clockwise direction and then 270° in anti-clockwise direction. Finally again turns 180° . What is this facing direction now?

- (1) SE (2) SW (3) South (4) North
east (5) None of the above

Important table

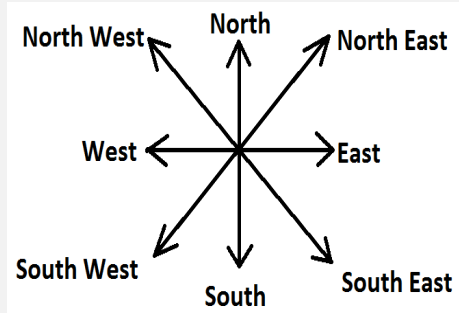
| | | | | |
|------------------------|---|-------------|---|---------------|
| 45° | = | 45° | - | 45×1 |
| $45^\circ + 45^\circ$ | = | 90° | - | 45×2 |
| $90^\circ + 45^\circ$ | = | 135° | - | 45×3 |
| $135^\circ + 45^\circ$ | = | 180° | - | 45×4 |
| $180^\circ + 45^\circ$ | = | 225° | - | 45×5 |
| $225^\circ + 45^\circ$ | = | 270° | - | 45×6 |
| $270^\circ + 45^\circ$ | = | 315° | - | 45×7 |
| $315^\circ + 45^\circ$ | = | 360° | - | 45×8 |

Shortcut to learn the table



P started from his house towards west. After walking a distance of 25 m. He turned to the right and walked 10 m. He then again turned to the right and walked 15 m. After this he is to turn right at 135° and to cover 30 m. In which direction he is going ?

TYPE 4



Study the information given below carefully and answer the questions that follow:

A, B, C, D, E, F, G, H and I are nine houses. C is 2 km east of B. A is 1 km north of B and H is 2 km south of A. G is 1 km west of H while D is 3 km east of G and F is 2 km north of G. I is situated just in middle of B and C while E is just in middle of H and D.

Q1. Distance between E and G is

Q.2 Distance between E and I is

(a) 1 km (b) 2 km (c) 3 km (d) 4 km (e) None of the above

Study the information given below carefully and answer the questions that follow:

On a playing ground, Dinesh, Kunal, Nitin, Atul and Prashant are standing as described below(Facing North)

- (i) Kunal is 40 metres to the right of Atul.**
- (ii) Dinesh is 60 metres to the south of Kunal.**
- (iii) Nitin is 25 metres to the west of Atul**
- (iv) Prashant is 90 metres to the north of Dinesh.**

Who is to the north-east of the person who is to the left of Kunal?

- (a) Dinesh (b) Nitin (c) Atul (d) Either Nitin or Dinesh (e) None of the above

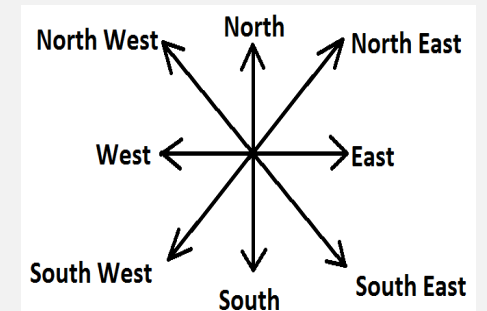
If a boy walks from Nitin, meets Atul followed by Kunal, Dinesh and then Prashant, how many metres has he walked if he has travelled the straight distance all through?

- (a) 155 metres (b) 185 metres (c) 215 metres (d) 245 metres
(e) None of the above

Rajesh walked 8 km towards south-west direction. He turned to east direction and walked 20 km. Then he turned to north-east direction and walked 8km and after to west direction for 6km. Then he turned to north east direction and walked 2 km straight after he turned west direction and walked 4km. Once more he turned south-west and walked 2km. How far is he from the starting point?

(a) 12km (b) 10km (c) 8km

(d) 6km (e) none of these



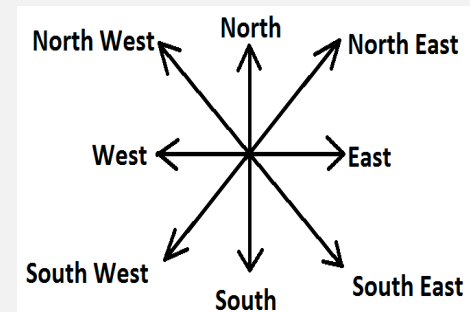
Point P is 10m west of point Q. Point X is 8m east of point M. Point Z is 10m north of point M. Point X is 5m south of point Q. Point B is 3m east of point Z.

What is the shortest distance between point P to X?

8m $5\sqrt{5}\text{m}$ 10m $\sqrt{13}\text{m}$ None of these

In which direction point M with respect to point B?

Southeast Northeast Southwest
Northwest None of these



Point P is 12m east of point Q.
Point Q is 9m north of point R
and also 11m south of point S.
Point T is 8m west of point S.
Point R is 14m south of point U.
Point W is 15m west of point R.

Q. Point W is in which direction with respect to point S?
North-west South-west North-east
South-east None of these

Q. What is the shortest distance between U and P?
 $\sqrt{29}\text{m}$ 13m $\sqrt{37}\text{m}$

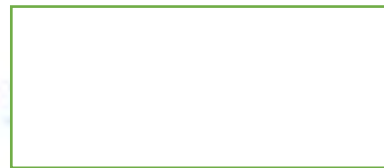


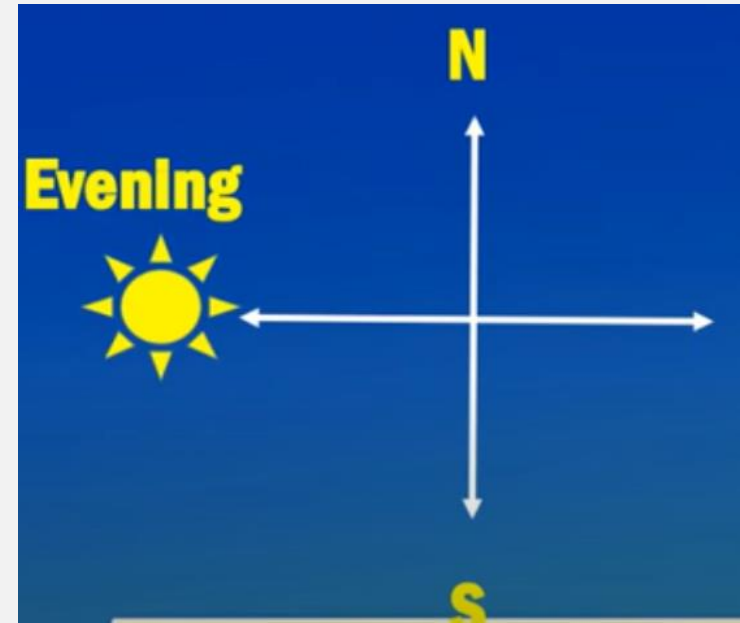
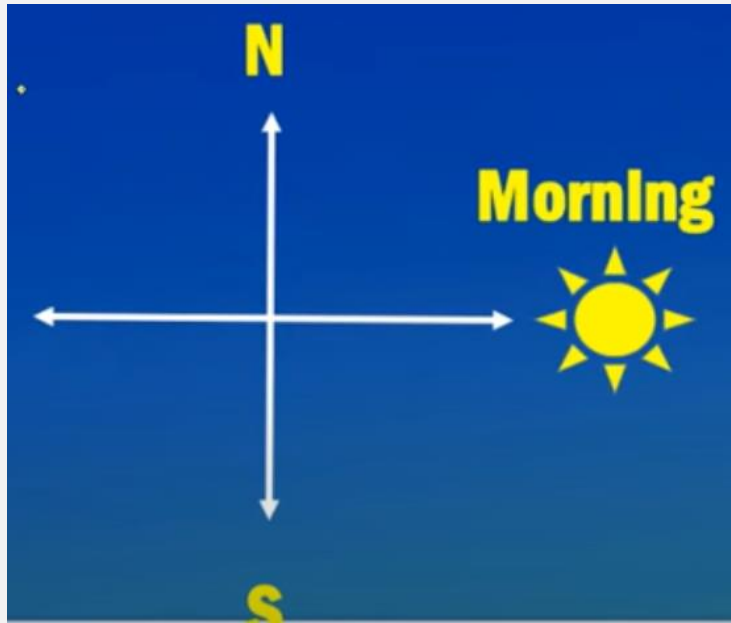
Sunset
(West)

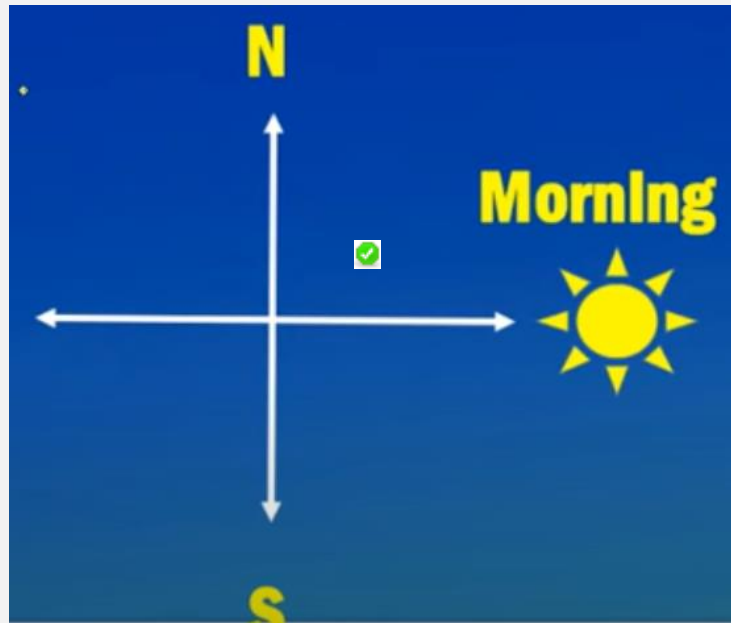


Object

Shadow
(East)

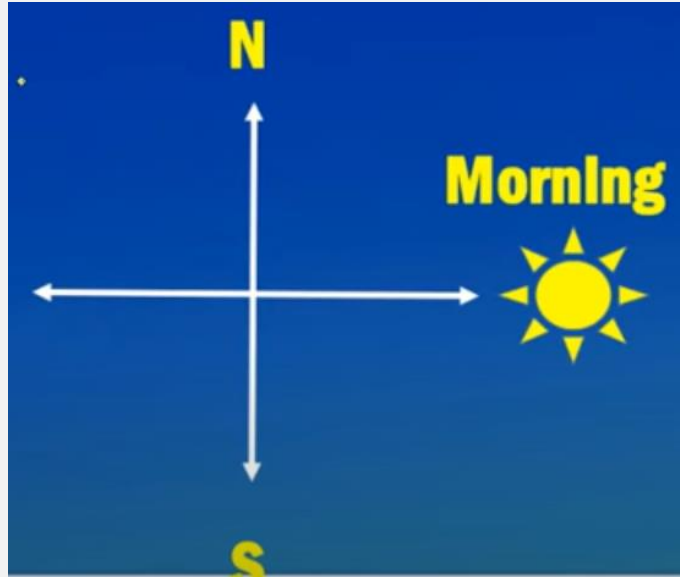




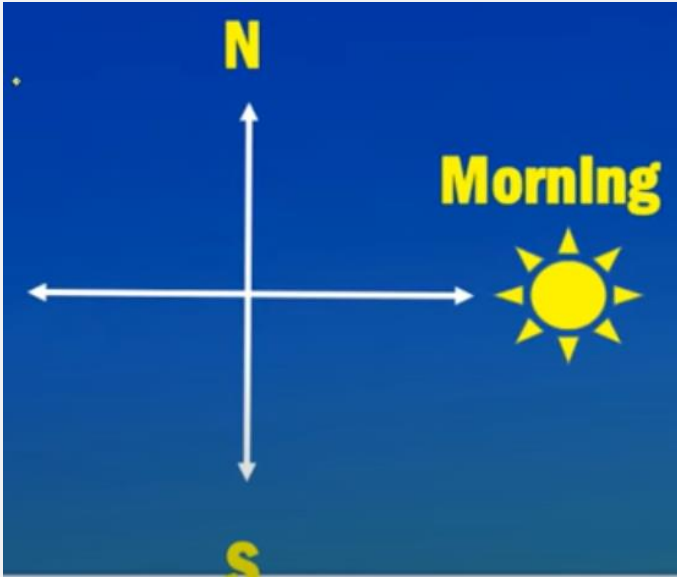


One morning Udai and Vishal were talking to each other face to face at a crossing. If Vishal's shadow was exactly to the left of Udai, which direction was Udai facing?

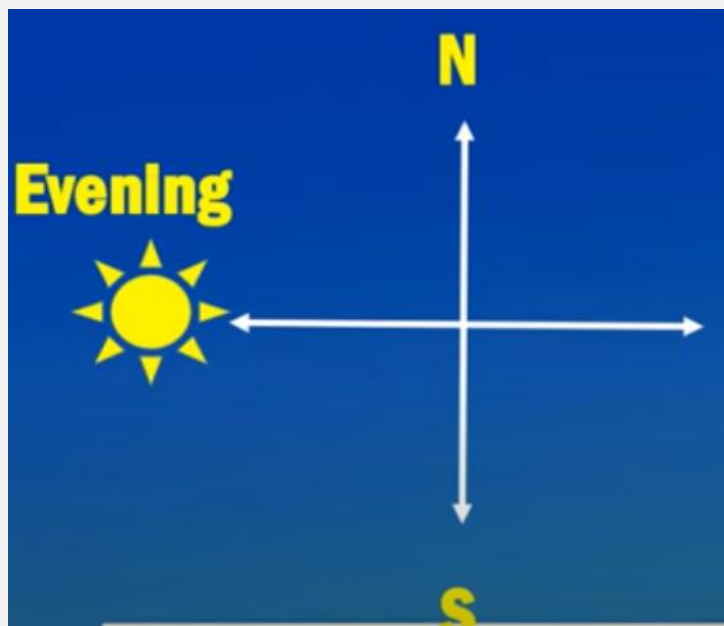
- [A]. East
- [B]. West
- [C]. North
- [D]. South



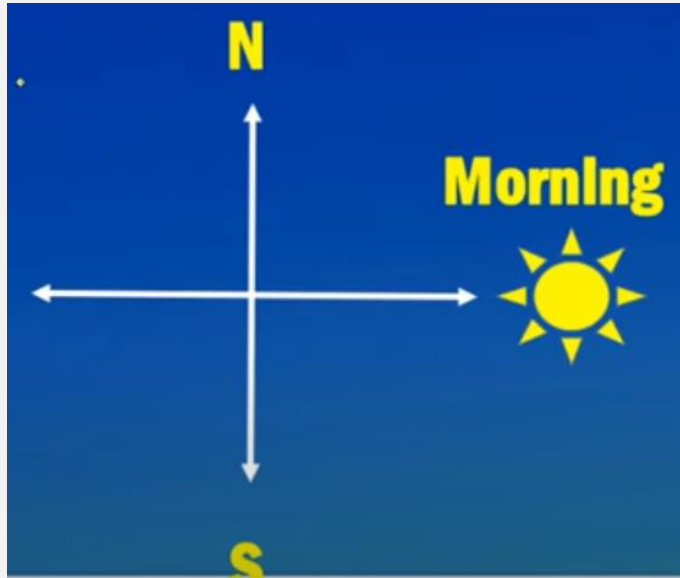
At sunrise, Rohit and Mohit are having a conversation standing in front of each other. The shadow of Mohit is formed towards the right hand of Rohit. What direction is Mohit facing?



In the morning Anil and Mohan are facing towards each other if the shadow of anil was exactly towards his right then in which direction was Mohan facing?



In the evening Mohit and harish were standing back to each other if the shadow of the Mohit felt exactly towards his right then in which direction was Mohit facing?



In the morning Anil and Mohan are facing towards each other if the shadow of anil was exactly towards right of Mohan then in which direction was Mohan facing ?