

# Direction and Distance

## What is Direction?

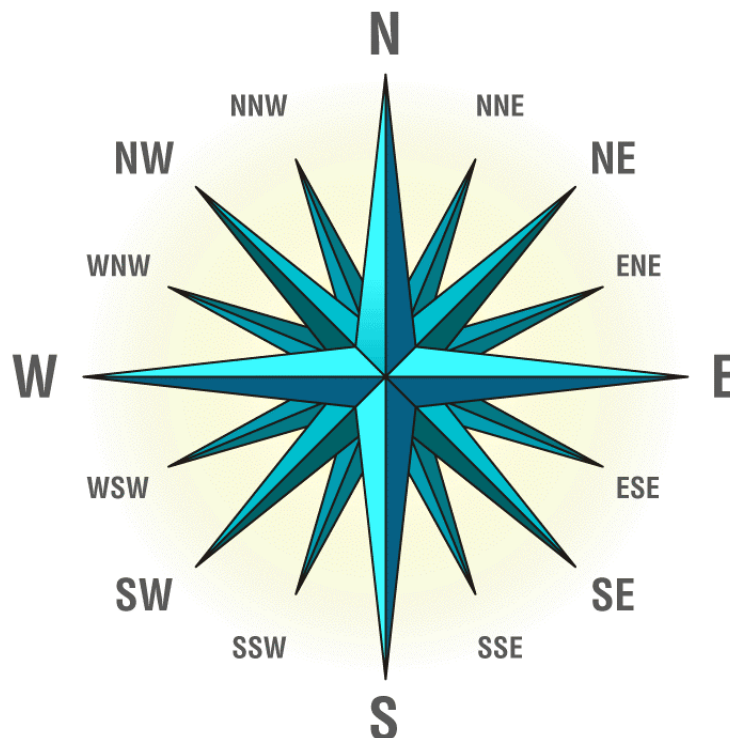
Direction is the information contained in the relative position of one point with respect to another point without the distance information. Directions may be either relative to some indicated reference or absolute according to some previously agreed upon frame of reference.

## Cardinal directions

The four cardinal directions or cardinal points are:

1. North
2. East
3. South
4. West

Their initials commonly denote these directions: N, E, S, W. East and West are at right angles to North and South, with east being in the clockwise direction of rotation from north and west being directly opposite east.



Representation of all 16 cardinal directions

The intermediate directions of the four cardinal directions are:

Cardinal directions

1	North – West
2	North – East
3	South – West
4	South – East

The intermediate directions are further classified as:

Intermediate directions

North-North-West	West-North-West
North-North- East	East -North-East
South-South-West	West-South-West
South-South-East	East-South-East

**Example 1:**

Mr Deepak Mohan walks 5 km towards the south and then turns to the right. After walking 3 km he turns to the left and walks 5 km. What direction is he facing right now?

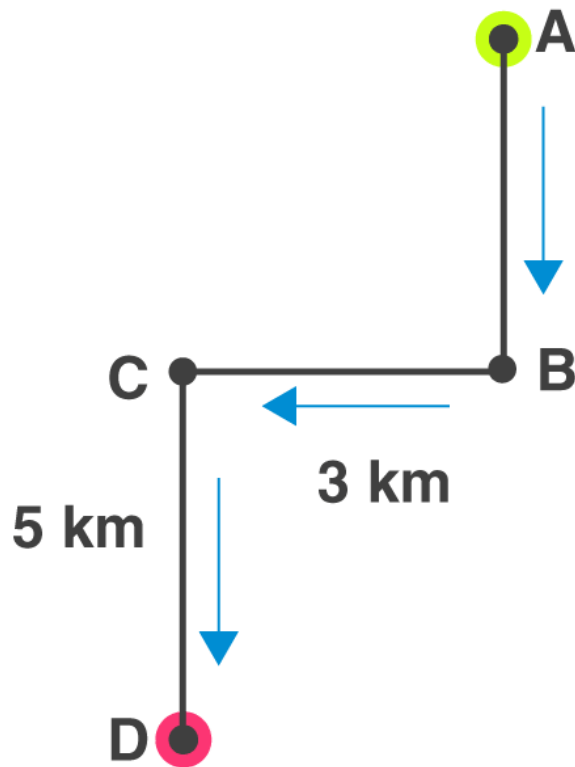
A. West

B. South

C. North-East

D.South-West

**Solution:**



The path traced by Deepak Mohan

The right and left movements are with respect to Mr. Deepak Mohan. After walking 5 km towards the South, he takes a right turn and now will be facing West. After walking 3 more km he turns left and walks 5 more km. Now he is facing South.

Hence, the answer is option B.

**Example 2:**

Sowmya Krishnan walked 20 m towards the north. Then she turned right and walks 30 m. Then she turns right and walks 35 m. Then she turns left and walks 15 m. Finally she turns left and walks 15 m. In which direction and how many meters is she from the starting position?

A.15 m West

B.30 m East

C.30 m West

D.45 m East

**Solution:**

