



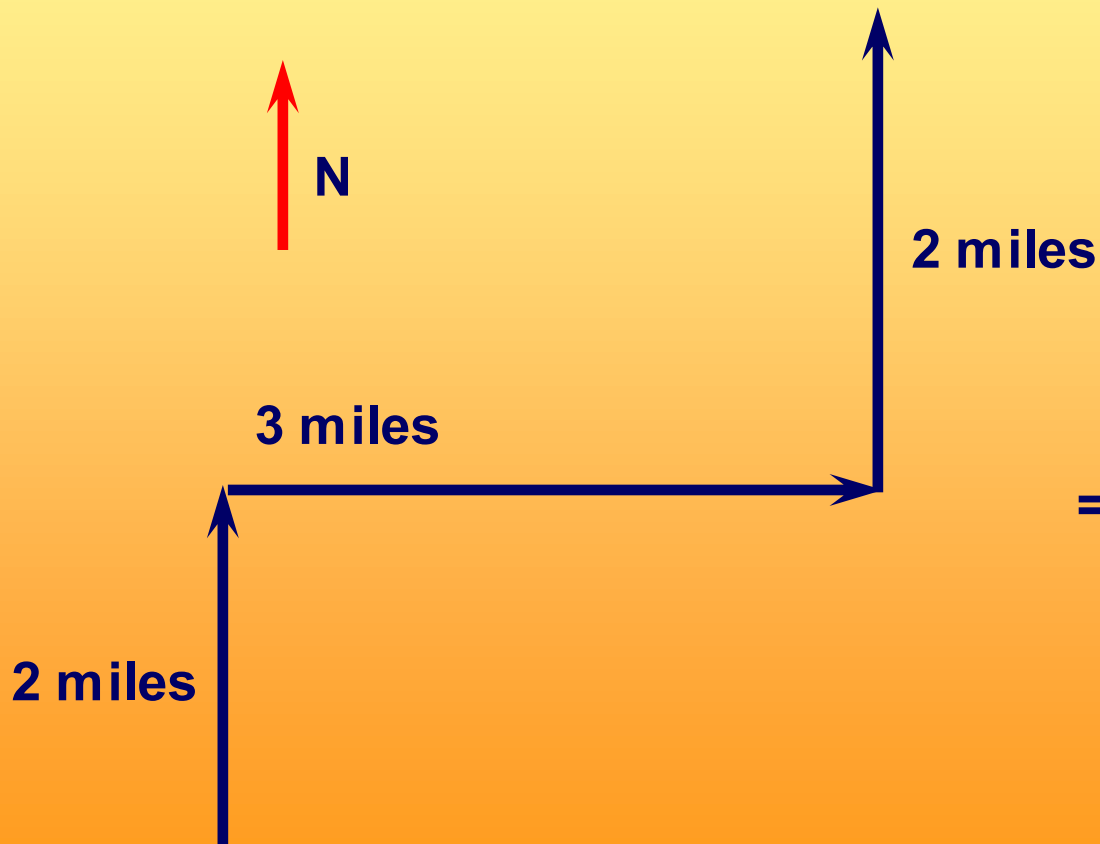
Direction and Distance Test



Distance

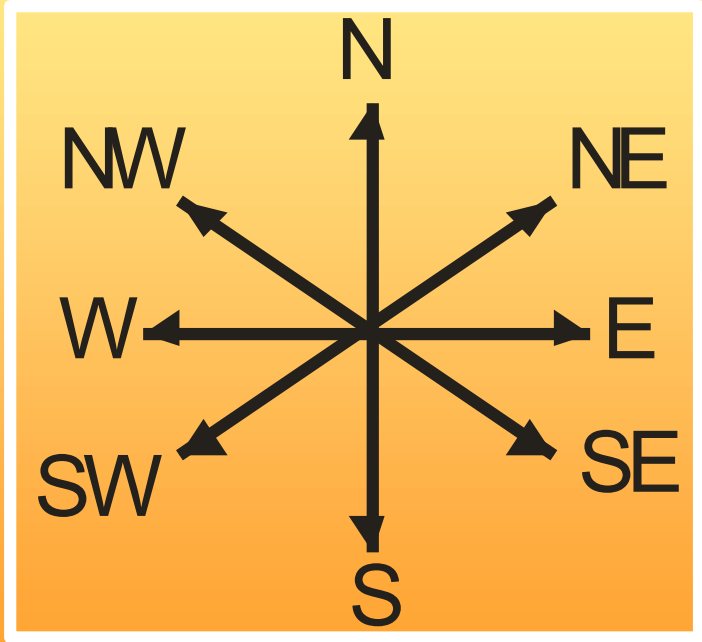
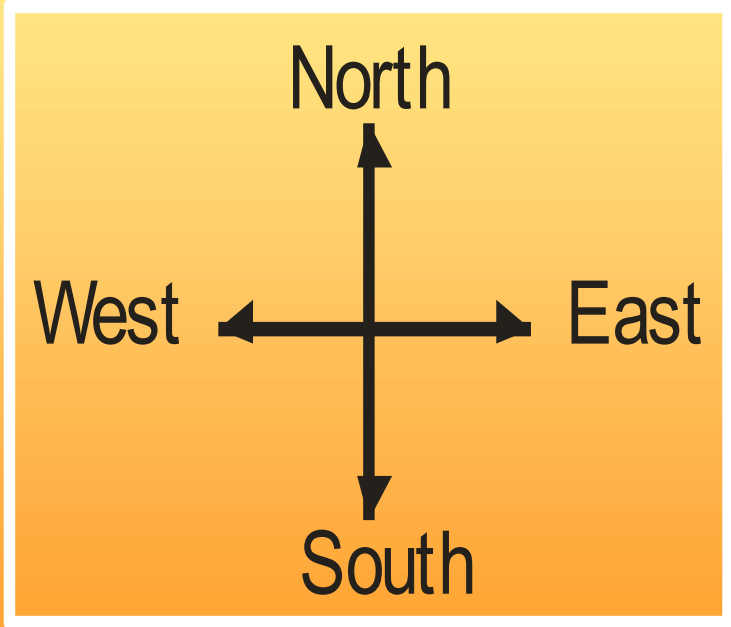
A numerical description of how far apart objects are.

Distance



**Total *DISTANCE* Traveled
= 2 miles + 3 miles + 2 miles
= 7 miles**

Direction





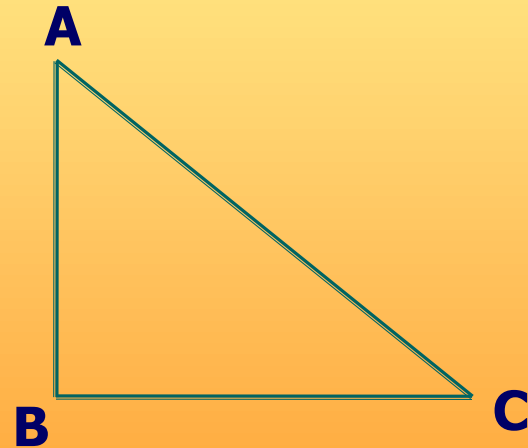
Tips for Questions Based on Sense of Directions

- Use the direction planes as the reference.
- Always mark the starting point and end-point different from the other points.
- Always be attentive while taking right and / or left turns.
- Mark distances with a scale (if your rough diagrams confuse you).
- One should be aware of basic geometric rule, such as Pythagoras Theorem.

Pythagoras Theorem

In right angle triangle ABC, $\angle ABC = 90^\circ$

Then $AC^2 = AB^2 + BC^2$

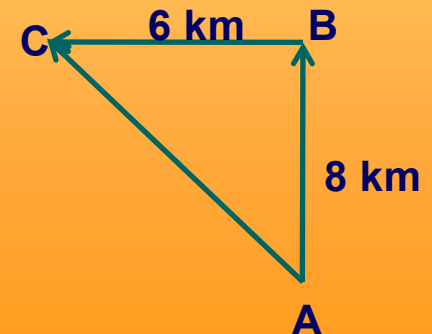


Example: Amit started from his house towards North. After covering a distance of 8 km he turned towards left and covered a distance of 6 km. what is the shortest distance now from his house?

Solution: Required distance = AC

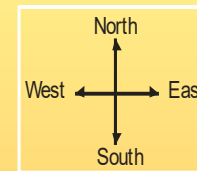
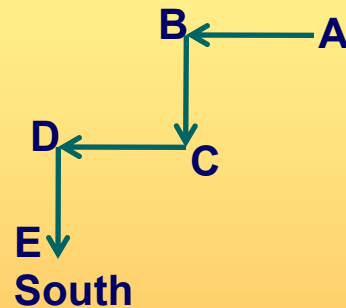
$$= \sqrt{[(8)^2 + (6)^2]}$$

$$= 10 \text{ km}$$

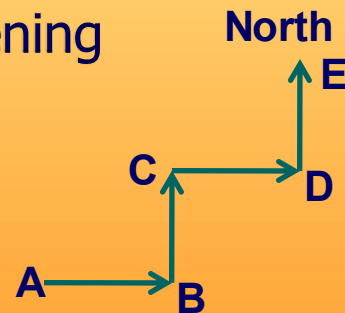


Example: Ashok started walking positioning his back towards the sun. After some time, he turned left, then turned right and towards the left again. In which direction is he going now?

Solution: In the morning



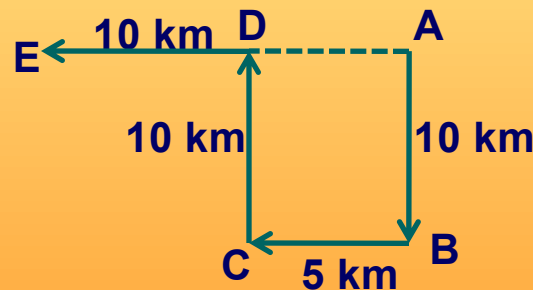
In the evening



If he starts walking in the morning then finally he will face towards south and if he starts in the evening then finally he will face towards North.

Example: One day, Prakash left home and cycled 10 km southwards, turned right and cycled 5 km and turned right and cycled 10 km and turned left and cycled 10 km. How many kilometers will he have to cycle to reach his home straight.

Solution: Prakash starts from home at A, moves 10 km southwards upto B. Turns right and moves 5 km upto C. Turn right again and moves 10 km upto D. Finally turns left and moves 10 km upto E.



Thus, his distance from initial point A = AE

$$\begin{aligned} &= AD + DE \\ &= BC + DE \\ &= 5 + 10 \\ &= 15 \text{ km} \end{aligned}$$



Thanks...