## Directions

### Part 1 - Basic

### Model 1: Tracing the Path

1. A vehicle starts from point P and runs 10 km towards North, It takes a right turn and runs 15 km. It now runs 6 km after taking a left turn. It finally takes a left turn, runs 15 km and stops at point Q?
   i. How far is point Q with respect to point P?
   1) 16 km 2) 25 km 3) 4 km 4) 20 km 5) None of these
   ii. Towards which direction was the vehicle moving before it stopped at point Q?
   1) North 2) East 3) South 4) West 5) North-West
   iii. In which direction point Q with respect to P?
   1) East 2) South 3) West 4) North-West 5) North
2. Vehicle started moving towards east. After moving a distance of 20 meters, it took a right turn, again after moving 10 meters, it took a left turn, and again after moving 10 meters, he took a left turn. Which direction is the vehicle moving now?
   1) West 2) North-West 3) North 4) East 5) South
3. A car started from point P and moves towards South and stops at point Q. It now takes a right turn followed by a left turn and stops at point R. It finally takes a left turn and stops at point S. If it moves 5 km before taking each turn, towards which direction car has to move from S to reach point Q?
   1) North 2) East 3) South 4) West 5) North-West

### Model 2: Tracing the Path - Pythagoras Theorem

4. A person started moving towards west and stopped at point 'P' after covering 10 km. He then takes a right turn and stopped at point 'Q' after covering 12 km. Finally, he takes left turn, covers 6 km and stops at point R. What is the distance between the starting point and stopping point?
   1) 20 km 2) 40 km 3) 60 km 4) 80 km 5) None of these
5. Gautam walked 35 meters towards south. Then he turned to his left and walked 40 meters. He then turned towards his left and walked 15 meters. He again turned to his right and walked 25 meters. At what approximate distance is he from the starting point and in which direction?
   1) 60m NE 2) 35m SE 3) 67m East 4) 67m SE 5) None of these
6. A persons starts from his house and travels a distance of 10m southwards and then travels a distance of 12m rightwards, then travels distance of 10m rightwards and finally travels a distance of 10m in the eastern direction. At what horizontal distance is he from his house?
   1) 2 m 2) 10 m 3) 12 m
   4) Cannot be determined 5) None of these

### Model 3: Direction before Stopping

7. Town D is to the west of town M. Town R is to the south of town D. Town K is the East of Town R. Town K is towards which direction of town D?
   1) South 2) East 3) North-East
   4) South-East 5) None of these
8. Suresh started walking straight facing east. After walking distance 20 meters, he took a right turn, again after walking 10 meters, he took a left turn, and again after walking 10 meters, he took a left turn. Which direction is he facing now?
   1) East 2) West 3) North 4) North-West 5) None of these

9. Raman started from point P and walks towards south and stops at point Q. He now takes a right turn followed by a left turn and stops at point R. He finally takes a left turn and stops at point S. if he walks 5 Km before taking each turn, towards which direction will Raman have to walk from point S to reach point Q?
   1) North 2) South 3) West 4) East 5) North west

**Model 4: Problems on Shadows**

10. If at 3pm the shadow of a person is on his right then the person is facing which direction?
   1) North 2) South 3) East 4) West 5) None of these
11. One morning Uday and Vishal were talking each other face to face at a crossing. If Vishal's shadow was exactly to the left of Uday, which direction was Uday facing?
   1) East 2) West 3) North 4) South 5) None of these
12. One evening before Sunset, Rekha and Hema were talking to each other face to face. If Hema's shadow was exactly to the right of Hema, which direction was Rekha facing?
   1) North 2) South 3) East
   4) Data inadequate 5) None of these

**Answers**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1(i)- 1 | 1(ii)- 4 | 1(iii)- 5 | 2 - 3 | 3 - 1 | 4 - 1 | 5 - 4 | 6 - 1 | 7 - 4 | 8 - 3 |
| 9 - 1 | 10 - 1 | 11 - 3 | 12 - 2 | | | | | | |

**Part 2 - Advanced**

**Directions (1-5):** Study the following information carefully and answer the questions given below:

i) A # B means A is to the right of B at a distance of 1m.
ii) A π B means A is to the left of B at a distance of 1m.
iii) A $ B means A is to the north of B at a distance of 1m.
iv) A $\eta\eta$ B means A is to the south of B at a distance of 1m.
v) In each of the following questions all persons face south.

1. If P # L $\eta\eta$ M # K, then K is in which direction with respect to P?
   1) Southeast 2) North 3) East 4) Northwest 5) None of these
2. If H $\eta\eta$ E # C π D, then D is in which direction with respect to C?
   1) North 2) East 3) South
   4) Cannot be determined 5) None of these
3. If P $ L π Q $\eta\eta$ J, then J is in which direction with respect to P?
   1) East 2) West 3) South 4) North 5) Cannot be determined
4. If G # P # D $\eta\eta$ S $ T, then T is in which direction with respect to G?
   1) South 2) Northeast 3) East
   4) Cannot be determined 5) None of these
5. If R π Q $\eta\eta$ L # N, then N is in which direction with respect to Q?
   1) Northeast 2) South 3) Southeast 4) West 5) None of these

**Directions (6):** Read the following information carefully and answer the question which follows.

Jack starts from point A, walks 14 m towards the East, takes a left turn and walks 4m. He then takes right turn, walks 2 m and stops. Sam starts from the same point A, walks 14 m towards the South, takes a left turn and walks 20 m before stopping

6. Jack walks 4 m from the point where he stopped in a straight line in the same direction which he faced when he stopped and reaches point B. How far would Sam have to travel from the point where he stopped and in which direction if he must meet Jack at point B?
   a) 12 m towards South  b) 14 m towards South
   c) 18 m towards South  d) 18 m towards North
   e) 16 m towards South
7. If South-east becomes North, North-east becomes west and so on, what will West become?
   a) North-east  b) North-west  c) South-east
   d) South-west  e) South
8. Arunima walks 12 km towards north from point A to point B. then she walks 7 km from there to point C after turning left, again she turns left and walks 5 k m to point D and then she turns left and stops at point E after walking 19 km. point P is towards East of point A. The person called Sunny, who stands at point P walks the shortest distance between point B and point E towards point Q.
   If point E is between R and Q, then in which direction point R with respect to point B?

**Directions (9-10):** Study the given information and answer the following questions.

A man walks from point P to reach point U. He walks 12 m towards south to reach point Q. Then, he walks 30 m towards east to reach point R. Then, he walks 10 m towards south to reach point S. Then, he walks and reaches point T, which is 25 m towards east of point S. Then, he walks 10 m towards north.

9. How far does the man reach from point P?
   1) 16 m  2) 13 m  3) 12.5 m  4) 14 m  5) None of these
10. In which direction has the man reached from point P?
   1) North  2) South  3) South-east 4) North-east 5) East
11. 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 is 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 to his north before meeting his father in a street. How far did the son meet his father from starting point?
   1) 80 metre  2) 90 metre  3) 100 metre 4) 110 metre
12. Shyam's house, his office and his gym are all equidistant from each other. The distance between any 2 of them is 4 km. Shyam starts walking from his gym in a direction parallel to the road connecting his office and his house and stops when he reaches a point directly east of his office. He then reverses direction and walks till he reaches a point directly south of his office. The total distance walked by Shyam is
   1) 9 km  2) 6 km  3) 16 km  4) 12 km  5) None of these
13. A and B are standing at a distance of 20 km from each other on a straight East-

West 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?

1) 10 km 2) 30 km 3) 20 km 4) 25 km

14. Jai Prakash started walking towards south from the point A, walked 20m and reached a point B. Again, he turned left and walked 20m and reached a point C. Now he turned 45° anticlockwise, walked a distance of $20\sqrt{2}$ m and reached a point D. What approximately is the shortest distance between the point A and B?

    1) Can't say 2) 30m 3) 40 m 4) $40\sqrt{2}$m 5) None of these

15. Two cars start from the opposite places of a main road, 150 km apart. First car runs for 25 km and takes a right turn and then runs 15 km. It then turns left and then runs for another 25 km and then takes the direction back to reach the main road. In the meantime, due to minor break down the other car has run only 35 km along the main road. What would be the distance between two cars at this point?

    1) 65 km 2) 75 km 3) 80 km 4) 85 km 5) None of these

**Answers**

1. Southeast 2. None of these 3. West 4. East 5. Southeast 6. 18 m towards South 7. South-east 8. South-east 9. None of these 10. South-east 11. 100 metre 12. 12 km 13. 10 km 14. 40 m 15. 65km