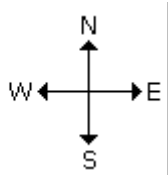


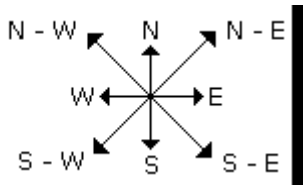
Directions based problems:

Introduction:

There are four main directions - **East, West, North** and **South** as shown below:



There are four cardinal directions - **North-East (N-E), North-West (N-W), South-East (S-E),** and **South-West (S-W)** as shown below:



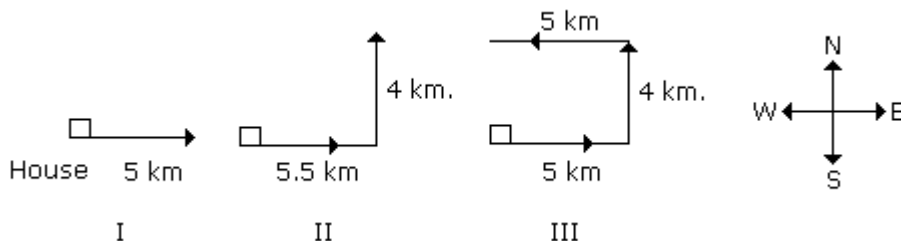
1. At the time of sunrise if a man stands facing the east, his shadow will be towards west.
2. At the time of sunset the shadow of an object is always in the east.
3. If a man stands facing the North, at the time of sunrise his shadow will be towards his left and at the time of sunset it will be towards his right.
4. At 12:00 noon, the rays of the sun are vertically downward hence there will be no shadow.

Main types of questions are given below:

Type 1:

Siva starting from his house, goes 5 km in the East, then he turns to his left and goes 4 km. Finally he turns to his left and goes 5 km. Now how far is he from his house and in what direction?

Solution:

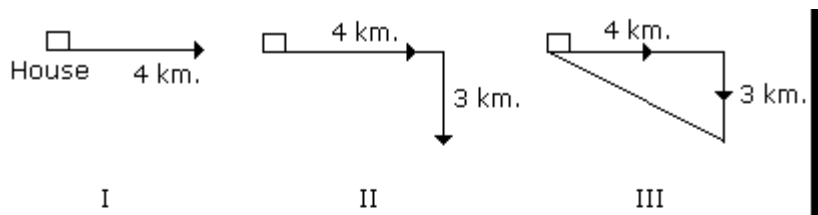


From third position it is clear he is 4 km from his house and is in North direction.

Type 2:

Suresh starting from his house, goes 4 km in the East, then he turns to his right and goes 3 km. What minimum distance will be covered by him to come back to his house?

Solution:

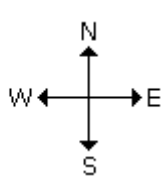


$$\begin{aligned} \text{Minimum distance} &= \sqrt{(4)^2 + (3)^2} \\ &= \sqrt{16 + 9} \\ &= \sqrt{25} \\ &= 5 \text{ km.} \end{aligned}$$

Type 3:

One morning after sunrise Juhi while going to school met Lalli at Boring road crossing. Lalli's shadow was exactly to the right of Juhi. If they were face to face, which direction was Juhi facing?

Solution: In the morning sunrises in the east.



So in morning the shadow falls towards the west.

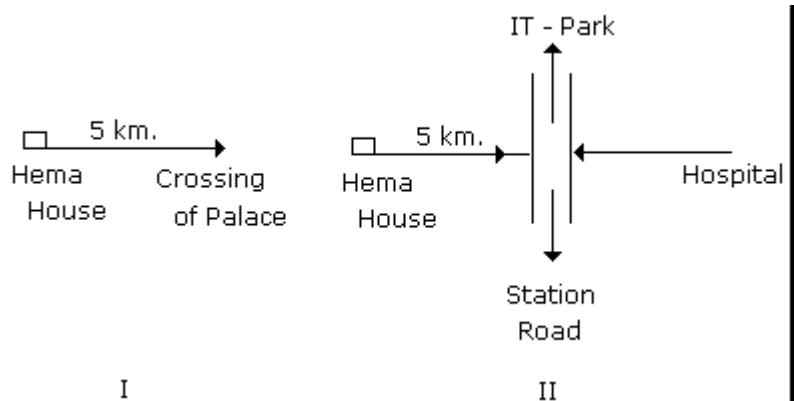
Now Lalli's shadow falls to the right of the Juhi. Hence Juhi is facing South.

Type 4:

Hema starting from her house walked 5 km to reach the crossing of Palace. In which direction she was going, a road opposite to this direction goes to

Hospital. The road to the right goes to station. If the road which goes to station is just opposite to the road which IT-Park, then in which direction to Hema is the road which goes to IT-Park?

Solution:



From II it is clear that the road which goes to IT-Park is left to Hema.

Examples:

1. 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

Answer & Explanation

Answer: Option C

Explanation:



2. Y is in the East of X which is in the North of Z. If P is in the South of Z, then in which direction of Y, is P?

A. North

B. South

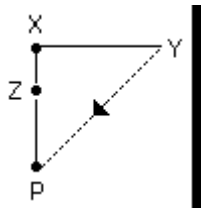
C. South-East

D. None of these

Answer & Explanation

Answer: Option D

Explanation:



P is in South-West of Y.

3. If South-East becomes North, North-East becomes West and so on. What will West become?

A. North-East

B. North-West

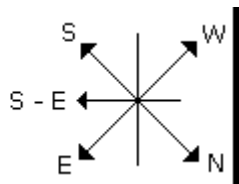
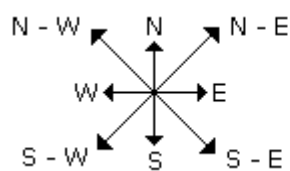
C. South-East

D. South-West

Answer & Explanation

Answer: Option C

Explanation:



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

4. A man walks 5 km toward south and then turns to the right. After walking 3 km he turns to the left and walks 5 km. Now in which direction is he from the starting place?

A. West

B. South

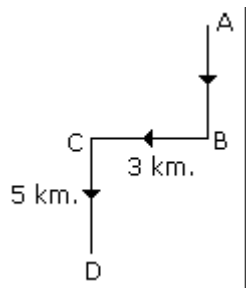
C. North-East

D. South-West

Answer & Explanation

Answer: Option D

Explanation:



Hence required direction is South-West.

5. Rahul put his timepiece on the table in such a way that at 6 P.M. hour hand points to North. In which direction the minute hand will point at 9.15 P.M. ?

A. South-East

B. South

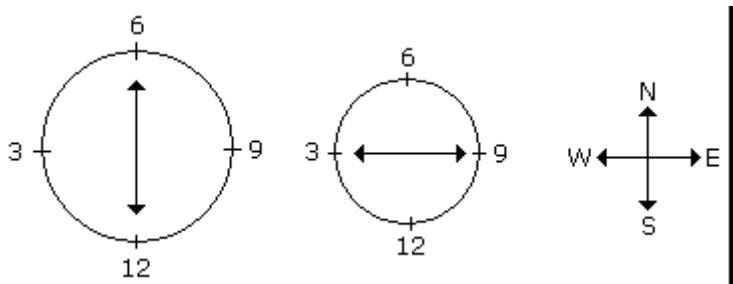
C. North

D. West

Answer & Explanation

Answer: Option D

Explanation:



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

Directions to solve Q 6-7:

Dev, Kumar, Nilesh, Ankur and Pintu are standing facing to the North in a

playground such as given below:

1. Kumar is at 40 m to the right of Ankur.
2. Dev is 60 m in the south of Kumar.
3. Nilesch is at a distance of 25 m in the west of Ankur.
4. Pintu is at a distance of 90 m in the North of Dev.
6. Which one is in the North-East of the person who is to the left of Kumar?

A. Dev

B. Nilesch

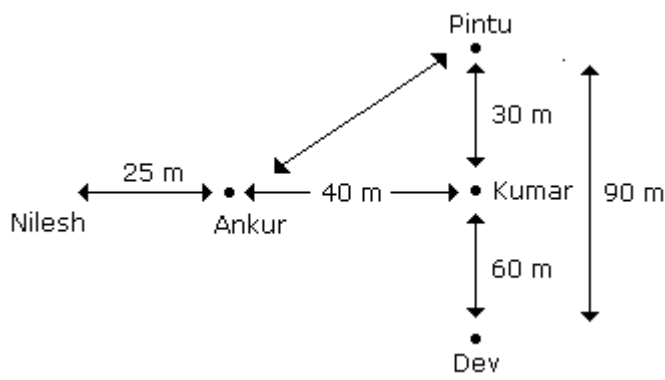
C. Ankur

D. Pintu

Answer & Explanation

Answer: Option D

Explanation:



Ankur is in the left of Kumar. Hence Pintu is in North-East of Ankur.

7. If a boy starting from Nilesch, met to Ankur and then to Kumar and after this he to Dev and then to Pintu and whole the time he walked in a straight line, then how much total distance did he cover?

A. 215 m

B. 155 m

C. 245 m

D. 185 m

Answer & Explanation

Answer: Option A

Explanation:

Required distance = 25 m + 40 m + 60 m + 90 m

Required distance = 215 m

Direction to solve Q 8-11:

Each of the following questions is based on the following information:

1. Six flats on a floor in two rows facing North and South are allotted to P, Q, R, S, T and U.
2. Q gets a North facing flat and is not next to S.
3. S and U get diagonally opposite flats.
4. R next to U, gets a south facing flat and T gets North facing flat.
8. If the flats of P and T are interchanged then whose flat will be next to that of U?

A. P

B. Q

C. R

D. T

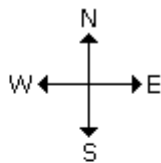
Answer & Explanation

Answer: Option C

Explanation:

P R U

S T Q



Interchanging flats P and T

T R U

S P Q

Hence flat R will be next to U.

9. Which of the following combination get south facing flats?

A. QTS

B. UPT

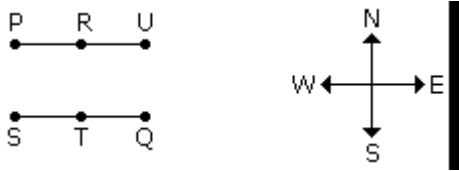
C. URP

D. Data is inadequate

Answer & Explanation

Answer: Option C

Explanation:



Hence URP flat combination get south facing flats.

10. The flats of which of the other pair than SU, is diagonally opposite to each other?

A. QP

B. QR

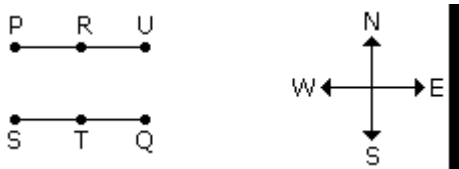
C. PT

D. TS

Answer & Explanation

Answer: Option A

Explanation:



Hence QP is diagonally opposite to each other.

11. Whose flat is between Q and S?

A. T

B. U

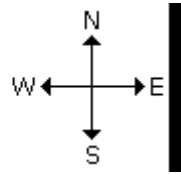
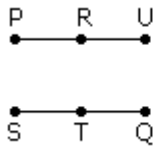
C. R

D. P

Answer & Explanation

Answer: Option A

Explanation:



Hence flat T is between Q and S.