

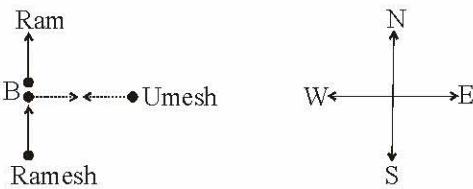
Ch 6 DIRECTION SENSE

ANSWERS AND EXPLANATIONS

EXERCISE 1

1. (e) If 12 is replaced by A, 11 is replaced by C, then 5 would be replaced by O.

Hence, the small hand would be at O



2. (a)

Hence, Umesh is facing West

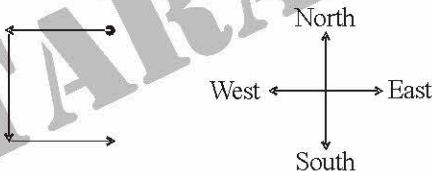
3. (a) Satish → Sunday

Sudha → Thursday

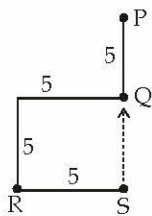
Anil → Friday

Hence, Anil read the book on Friday

4. (c)

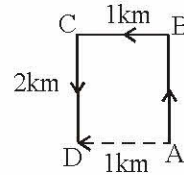


5. (a)



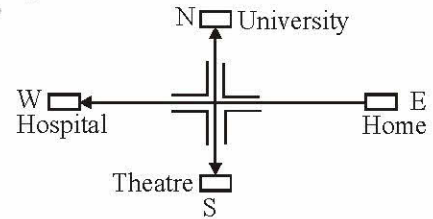
So, Raman will have to walk in North direction to reach point Q from point S.

6. (a) The Sun rises in the east. So, in morning, the shadow falls towards the west. Now, shadow of pole falls to the right of Gopal. Therefore, Gopal's right side is the west. So, he is facing South.
7. (b) Clearly, the boy rode from A to B,

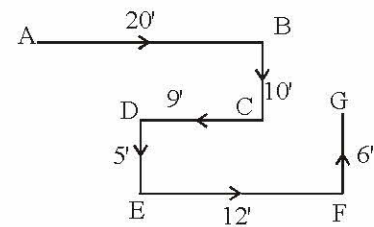


then to C and finally up to D. Since D lies to the west of A, so required distance = $AB = CD = 2$ km.

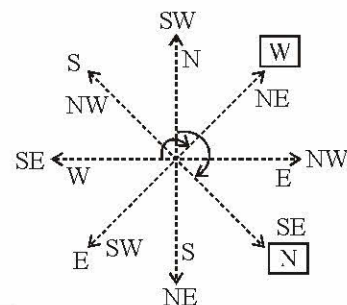
8. (a) Starting from his house in the East, Ravi moves westwards. Then, the theatre, which is to the left, will be in the South. The hospital, which is straight ahead, will be to the West. So, the University will be to the North.



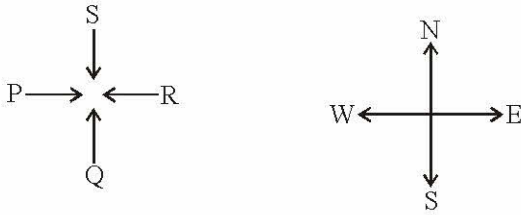
9. (c) The movements of rat are as shown in figure. Clearly, it is finally walking in the direction FG i.e. North.



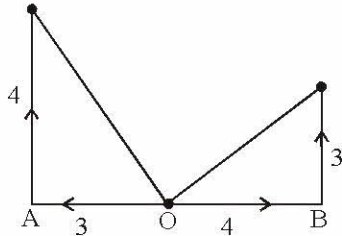
10. (c) Here, each direction moves $90^\circ + 45^\circ = 135^\circ$



11. (a) Here, R faces towards West. S is to the right of R. So, S is facing towards South. Thus, Q who is the partner of S, will face towards North.

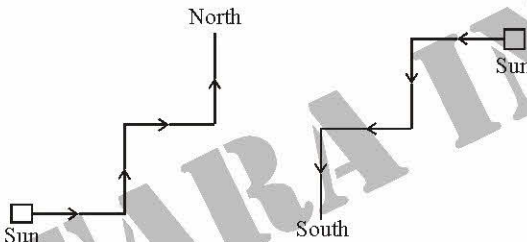


12. (a) Here, O is the starting point.



Both A and B are $\sqrt{3^2 + 4^2} = 5$ km from the starting point.

13. (a) Clearly, there are two possible movements of Anuj as shown below:

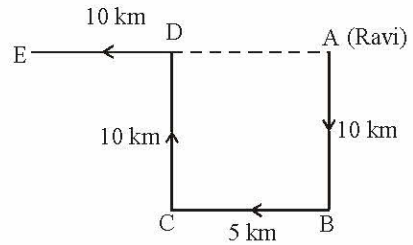


14. (b)
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It is clear from the diagram that school is in North-west direction with respect to home.

15. (b) Here, Ravi starts from home at A, moves 10 km southwards up to B, turns right and moves 10 km up to C, turns right again and moves 10 km up to D and finally turns left and moves 10 km up to E.

Thus, his distance from initial position A = AE
 = AD + DE
 = BC + DE = (5 + 10) km
 = 15 km.

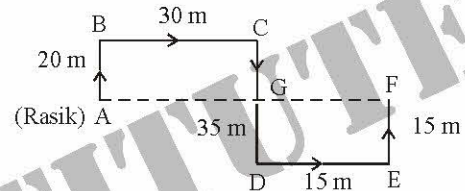


16. (d) The movements of Rasik from A to F are as shown in figure.

Since CD = AB + EF, so F lies in line with A.

Rasik's distance from original position A = AF
 = (AG + GF) = (BC + DE) = (30 + 15) m = 45m.

Also, F lies to the east of A.

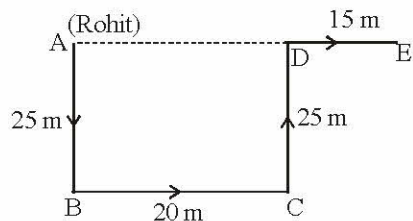


17. (b) In the evening, sun is in the west and so the shadows fall towards east. So, Mohit's shadow fell towards east. Now, since Mohit's shadow fell towards right, therefore, Mohit is facing North. So Sumit, standing face to face with Mohit, was facing South.

18. (a) The movements of Rohit are as shown in figure.

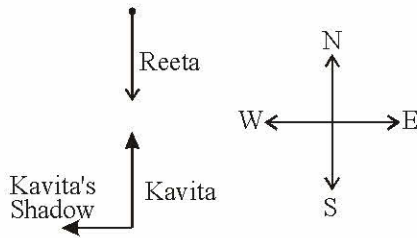
Rohit's distance from starting point A = AE
 = (AD + DE) = (BC + DE) = (20 + 15) m = 35 m.

Also, E is to the East of A.

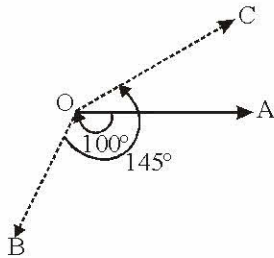


19. (a) In morning, sun rise in the east so shadow of a object falls towards the west. Now, Kavita's shadow falls to the rights of Reeta. Hence, Reeta is facing South and Kavita is facing North.

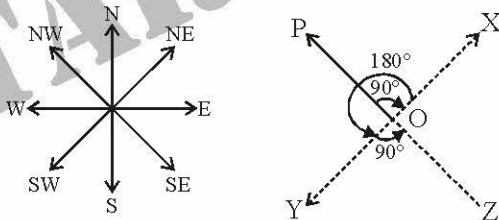




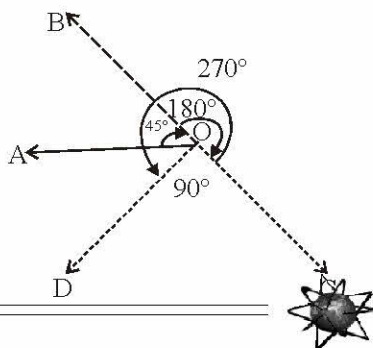
20. (b) As shown in figure, the man initially faces towards east i.e., in the direction OA. On moving 100° clockwise, he faces in the direction OB. On further moving 145° anticlockwise, he facing the direction OC. Clearly, OC makes an angle of $(145^\circ - 100^\circ)$ i.e. 45° with OA and so, the man faces in the direction North-east.



21. (d) As shown in figure, the man initially faces in the direction OP. On moving 90° clockwise, he faces in the direction OX. On further moving 180° anticlockwise, he faces in the direction OY. Finally, on moving 90° anticlockwise, he faces in the direction OZ, which is South-east.

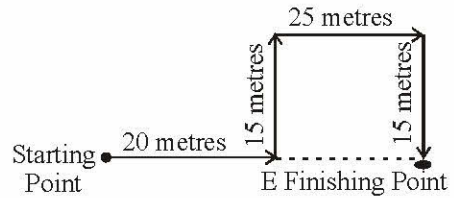


22. (d) Clearly, the man initially faces in the direction OA. On moving 45° clockwise, he faces in the direction OB. On further moving 180° clockwise, he faces in the direction OC. Finally, on moving 270° anticlockwise, he faces in the direction OD, which is South-west. Hence, the answer is (d)



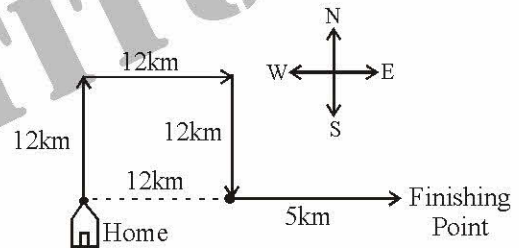
Solutions 23 to 27.

23. (d)

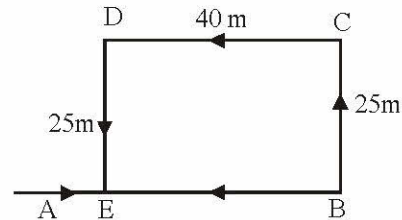


Shobha turns left after walking 20 metres towards East. Now she walks 15 metres towards North. She turns right towards East again and walks 25 metres further. Finally turning right towards South, she walks 15 metres. The distance moved towards North and towards South is same, i.e., 15 metres. So, Shobha is $20 + 25$ metres = 45 metres away from her starting point.

24. (c) $(12 \text{ km} + 5 \text{ km} = 17 \text{ km})$



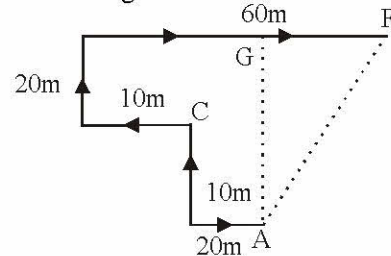
25. (d) The movements of Deepak are as shown in fig.



Clearly, $FB = DC = 40 \text{ m}$.

\therefore Deepak's distance from the starting point A = $(AB - EB) = (75 - 40) \text{ m} = 35 \text{ m}$.

26. (d) The movements of the person are from A to F, as shown in fig.



Clearly, the final position is F which is to the north

