

Blood Relation and Direction Test

In this type of questions, generally some relations between the members of a particular community is given and you are supposed to find out the missing relations which are there between them, but in the hidden form.

Before proceeding any further, here is a list of the **important** relations that are mostly asked in the examinations.

- | | |
|---------------------|-------------------------------------------------------------|
| 1. Brother | Son of Mother or Father |
| 2. Sister | Daughter of Mother or Father |
| 3. Aunt | Sister of Mother or Father |
| 4. Uncle | Brother of Mother or Father |
| 5. Cousin | Son of Uncle or Aunt OR
Daughter of Uncle or Aunt |
| 6. Grandmother | Mother of Father or Mother |
| 7. Grandfather | Father of Father or Mother |
| 8. Niece | Daughter of the Brother or Sister |
| 9. Nephew | Son of the Brother or Sister |
| 10. Brother-in-law | Sister's Husband, Brother
of Wife or Husband |
| 11. Sister-in-law | Brother's Wife or Sister of
Wife or Husband |
| 12. Daughter-in-law | Wife of the Son |

(All the given relations are based on standard social practices)

Solved Examples

1. Pointing towards a person in a photograph, Aruna said, "He is the only son of the father of my sister's brother." How is that person related to Aruna?

- (a) Maternal uncle (b) Mother
(c) Father (d) Brother

Solution : (d)

The person is the brother of Aruna as he is the only son of Aruna's father.

2. Pointing to Snehal, Mahesh said, "Her mother's only daughter is my daughter." How is Mahesh related to Snehal?

- (a) Brother (b) Uncle
(c) Son (d) Father

Solution : (d)

Mahesh is father of Snehal.

3. If $A + B$ means A is the brother of B; $A \times B$ means A is the mother of B; and $A \div B$ means A is the sister of B, then which of the following would mean X is the uncle of Y?

- (a) $X \times A + Y$ (b) $X \times Y + A$
(c) $X + A \times Y$ (d) $X \div A \times Y$

Solution : (c)

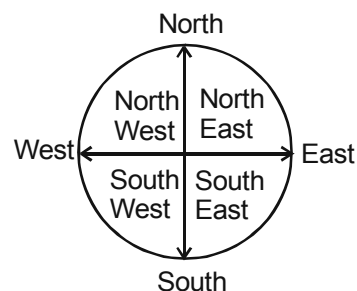
X is the uncle of Y means X is the brother of the mother of Y. According to the given expressions, it must be $X + A \times Y$, which is (c).

Direction Test

About one to three questions are asked from this topic. This topic is quite easy. The best way of solving these questions is to follow the instructions given in the question carefully and make a diagram accordingly with the help of which the question can be solved.

The direction chart given below is used in solving questions based on direction test.

Direction chart



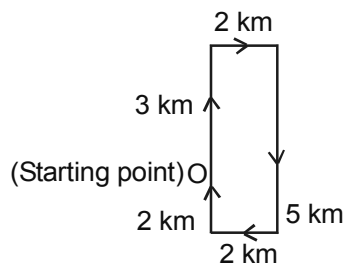
1. A starts from his office and walks 3 km towards north. He then turns right and walks 2 km and then turns right and walks 5 km. He then turns right and walks 2 km and then again turns right and walks 2 km. In which direction is he from the starting point?

- (a) South
(b) North-east
(c) South-east
(d) He is at the starting point

Solution : (d)

6.2

The movement is:



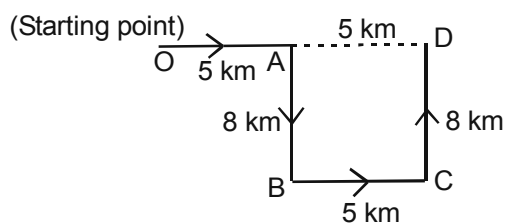
Hence, he is at the starting point.

2. I go 5 km east, then turn right and go 8 km. Then I turn left and go 5 km, and then I turn left and go 8 km. At what distance am I from the starting point now?

- (a) 10 km (b) 8 km
(c) 6 km (d) 7 km

Solution : (a)

The movement is:



The required distance OD is $OA + AD$, whereas $AD = BC = 5$ km.

Hence, $OD = 5 \text{ km} + 5 \text{ km} = 10 \text{ km}$.

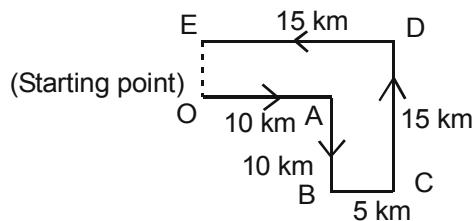
3. Arun drives 10 km straight ahead towards east and 10 km to the right. Then every time turning to his left he drives 5, 15 and 15 km respectively. How far is he from the starting point?

- (a) 10 km (b) 5 km
(c) 20 km (d) 25 km

Solution : (b)

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The movement is:



The required distance is $OE = DC - AB$,
i.e. $15 \text{ km} - 10 \text{ km} = 5 \text{ km}$.

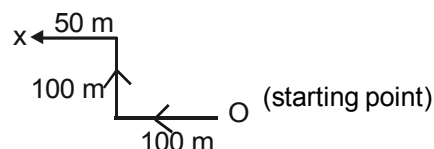
Hence, (b) is the answer.

4. The door of my house faces east. I walk from my back door 100 m, then right and walk 100 m and turn left and walk 50 m and reach a point X. In which direction am I from the starting point?

- (a) North-west (b) West
(c) North (d) South

Solution : (a)

The movement is like



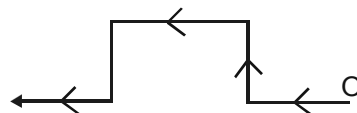
We have to assume that the backdoor faces the west.

5. After his office in the afternoon a man goes facing the sun. Then he turns to his right, then he turns to his left and then turns to his left and then to his right. In which direction is he moving?

- (a) South (b) North
(c) East (d) West

Solution : (d)

The movement is like:





Exercise

Blood Relation

Directions for questions 1 to 5: Read the following information carefully and answer the questions that follow.

A family consists of 5 members: P, Q, R, S and T. The last one T has two sons, an unmarried daughter and a daughter-in-law. P is the brother-in-law of above-mentioned daughter-in-law. Q's sister is not happy with Q's wife. But P and his father support Q's wife S.

- Who is the daughter of T?
(a) P (b) Q
(c) R (d) S
- What is the relation of P with S?
(a) Brother (b) Brother-in-law
(c) Sister-in-law (d) Sister
- How is T related to Q?
(a) Father (b) Brother
(c) Father-in-law (d) Cannot be determined
- Who is the wife of Q?
(a) P (b) R
(c) S (d) Cannot be determined
- How is P related to T?
(a) Father (b) Brother
(c) Sister (d) None of these

Directions for questions 6 to 22: Read the given information and answer the following questions based on it.

- If L is the brother of the son of M's son, how is L related to M?
(a) Son (b) Cousin
(c) Brother (d) Grandson
- If Teena's mother was Uday's mother's daughter, how was Uday related to Teena?
(a) Grandfather (b) Brother
(c) Grandson (d) Maternal uncle
- R told S that T is his father's nephew. U is R's cousin but not brother of T. How is U related to T?
(a) Mother (b) Father
(c) Aunt (d) Sister
- If Akshay is the brother of the son of Sunil's son, what relationship is there between Akshay and Sunil?
(a) Nephew (b) Brother
(c) Cousin (d) Grandson
- If P is the mother of Q and R, and S is the husband of R, then how is P related to S?
(a) Mother (b) Aunt
(c) Son-in-law (d) Mother-in-law
- Friday told Saturday that Tuesday is his father's nephew. June is Friday's cousin but not sister of Tuesday. How is June related to Tuesday?
(a) Sister (b) Brother
(c) Aunt (d) Sister or Cousin
- If Atul is the brother of the son of Sammi's daughter, then how is Atul related to Sammi?
(a) Nephew (b) Brother
(c) Cousin (d) Grandson
- If Preeti is the mother of suman and Reena, and Sunil is the husband of Reena, then how is suman related to Sunil?
(a) Brother (b) Brother-in-law
(c) Aunt (d) Cannot be determined
- Himani, who is Suresh's daughter, says to Anu, "Your mother, Rakhi, is the younger sister of my father who is the third child of Ravi." How is Ravi related to Himani?
(a) Father (b) Grandfather
(c) Father-in-law (d) Cannot be determined
- Kamal said to Vimala, "Your only brother's son is my wife's brother." How is Vimala related to wife of Kamal?
(a) Sister-in-law (b) Aunt
(c) Mother-in-law (d) Cannot be explained
- A is the brother of B and C is the father of A. D is the brother of E and E is daughter of B. Who is the uncle of D?
(a) B (b) C
(c) A (d) Cannot be determined
- If A is the husband of B, and C is the mother of D and B, how is C related to A?
(a) Mother (b) Aunt
(c) Grandmother (d) Mother-in-law

6.4

18. A is the mother of B. B's father C has 3 children. Based on this information, state which of the following statements is definitely true?
(a) C has 3 daughters (b) C has 3 sons
(c) B is a male child (d) A has 3 children
19. Pointing to a photograph, a woman says, "This man's son's sister is my mother-in-law." How is the woman's husband related to the man in the photograph?
(a) Son-in-law (b) Son
(c) Grandson (d) Nephew
20. If Lekha says, "Neha's father Neeraj is the only son of my father-in-law Rajesh", then how is Bindu, who is the sister of Neha, related to Rajesh. (counting from both directions)?
(a) Daughter (b) Wife
(c) Daughter-in-law (d) Granddaughter
21. Pointing to a gentleman, Deepak said, "His only brother is the father of my daughter's father." How is the gentleman related to Deepak?
(a) Father (b) Grandfather
(c) Uncle (d) Father-in-law
22. Sunder is the brother of Babul. Manju is the sister-in-law of Babul. How is Manju related to Sunder?
(a) Wife (b) Sister-in-law
(c) Sister (d) Cannot be determined

Directions for questions 23 to 28: Read the following information carefully and answer the questions that follow.

'X – Y' means 'X is the husband of Y'.

'X + Y' means 'X is the daughter of Y'.

'X × Y' means 'X is the brother of Y'.

23. If $A + B \times C$, then which of the following is true?
(a) A is the daughter-in-law of C
(b) A is the aunt of C
(c) A is the niece of C
(d) A is the daughter of C
24. If $A + B - C$, then which of the following is true?
(a) C is the mother-in-law of A
(b) C is the aunt of A
(c) C is the mother of A
(d) C is the sister-in-law of A

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25. If $A \times B + C$, then which of the following is true?
(a) A is the father of C
(b) A is the uncle of C
(c) A is the brother of C
(d) A is the son of C
26. If $A \times B - C$, then which of the following is true?
(a) A is the brother-in-law of C
(b) A is the aunt of C
(c) A is the niece of C
(d) A is the daughter of C
27. If $C + B - A$, then, which of the following is true?
(a) C is the mother-in-law of A
(b) C is the aunt of A
(c) A is the mother of C
(d) C is the sister-in-law of A
28. If $B + A \times C$, then which of the following is true?
(a) C is Uncle of B
(b) C is Aunt of B
(c) B is Niece of C
(d) C is Son of A
29. A walks 2 km southward and takes a right turn and walks 5 km, then turns left and walks 3 km and again turning left walks 5 km. In which direction is he now from the starting point?
(a) South-east (b) South
(c) East (d) West
30. Bantu walks southwards, then takes a half-right turn and then a left turn. In which direction is he walking now?
(a) South (b) East
(c) South-west (d) North
31. Mr Ajay started from his house, walked 4 km north, then 6 km west, then 12 km south. How far away from his home was he then?
(a) 8 km (b) 5 km
(c) 20 km (d) 10 km
32. Mr P stands with his face pointing to south-east. P walked 25 m and then turned northwards and walked another 15 m. How far was he then from the starting point?
(a) 15 m (b) 20 m
(c) 10 m (d) 5 m
33. Aditya faces north and covers 24 km, turns west

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and covers 12 km, then turns south and covers 6 km, and turns west again and covers 12 km. How far is he from the starting point and in which direction?

- (a) 10 km south-east
- (b) 20 km north-east
- (c) 30 km north-west
- (d) 40 km south-west

34. Rajesh walks 40 km towards north. He then turns left and walks 80 km. He again turns left and walks 40 km. Then he moves 40 km after turning to the right. How far is he from the starting point?

- (a) 80 km
- (b) 100 km
- (c) 120 km
- (d) 160 km

35. Starting from O, Vivek walked 40 m towards south, then he turned left and walked 60 m. He again turned left and walked 40 m. He once again turned left and walked 80 m and reached at D. How far and in which direction is D from O?

- (a) 20 m, east
- (b) 40 m, west
- (c) 20 m, west
- (d) 20 m, south

36. Krishna walks 40 m towards north. Then after

turning right he walks 60 m. Then he turns right and walks 70 m. After that he turns left and walks 30 m. Then he again turns left and walks 30 m. In which direction with respect to the initial position and how much distant is he from the starting point?

- (a) 60 m, east
- (b) 90 m, east
- (c) 60 m, north
- (d) 30 m, west

37. Uttam ran 40 m east, then turned right and ran 20 m and then turned to right and ran 18 m and again turned to left and ran 10 m and then turned to left, ran 24 m and finally turned to left and ran 12 m. Now he is running towards which direction?

- (a) West
- (b) North
- (c) South
- (d) East

38. Narendra travels 20 km to the north, turns left and travels 8 km and then again turns right and covers another 10 km and then turns right and travels another 8 km. How far is he from the starting point?

- (a) 8 km
- (b) 40 km
- (c) 30 km
- (d) 20 km



Answer Key

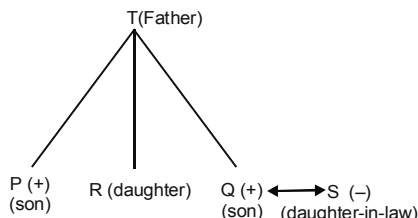
- | | | | | | | | | | |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1. (c) | 2. (b) | 3. (a) | 4. (c) | 5. (d) | 6. (d) | 7. (d) | 8. (d) | 9. (d) | 10. (d) |
| 11. (d) | 12. (d) | 13. (d) | 14. (d) | 15. (b) | 16. (c) | 17. (d) | 18. (d) | 19. (c) | 20. (d) |
| 21. (c) | 22. (d) | 23. (c) | 24. (c) | 25. (d) | 26. (a) | 27. (c) | 28. (c) | 29. (b) | 30. (c) |
| 31. (d) | 32. (b) | 33. (c) | 34. (c) | 35. (c) | 36. (b) | 37. (b) | 38. (c) | | |



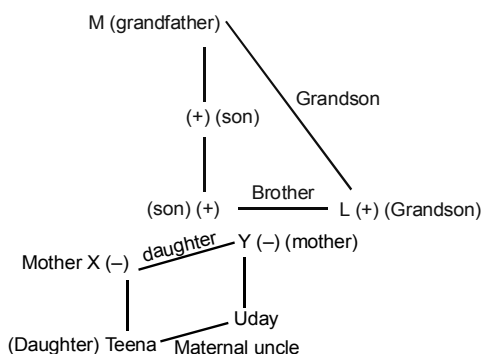
Explanations

For questions 1 to 5:

From the given information we arrive at the following diagram, with the help of which rest of the questions can be solved very easily.

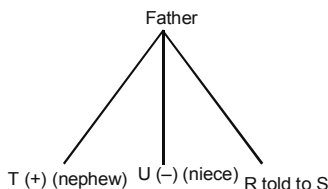


6. d With the help of the given information we arrive at the following diagram.



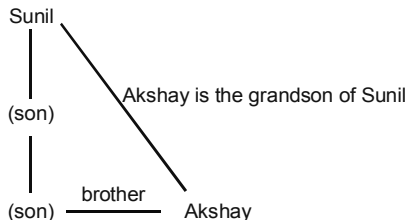
7. d

8. d

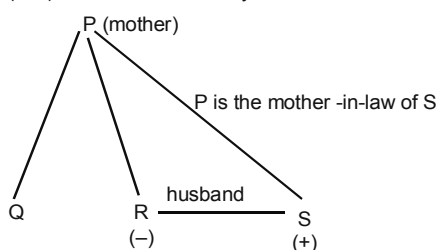


As U is cousin but not brother, then U have to be female. Therefore, sister of T.

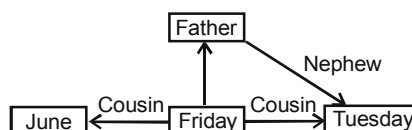
9. d



10. d

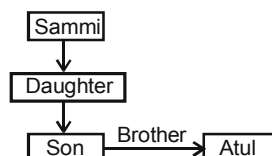


11. d



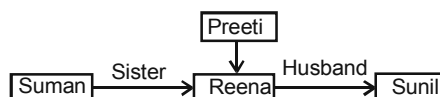
As June is not sister of Tuesday, thus June is either brother or cousin of Tuesday.

12. d



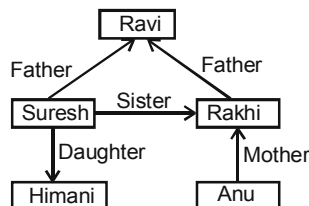
Sammi's daughter's son is grandson of Sammi, so Atul is also grandson of Sammi.

13. d



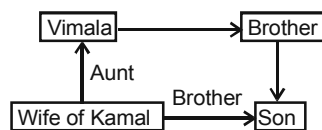
As gender of Suman is not given, so Suman is either brother in law or sister in law of Sunil. So correct option is (d).

14. d



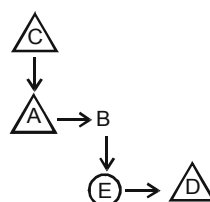
As we don't have information about gender of Ravi. So we cannot determine. Hence, option (d) is correct answer.

15. b



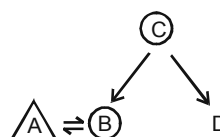
So, Vimala is Aunt of Kamal's wife.

16. c



Hence, it is evident that A is the uncle of D.

17. d



Hence, it is evident that C is the mother-in-law of A.

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18. d A is the mother of B who has two more siblings. Hence, we can conclude that A has three children.
19. c The man's daughter is the woman's mother-in-law. Hence, the woman's husband should be the grandson to the man.
20. d 'The only son of my father-in-law' is my husband. Hence, Neeraj is Lekha's husband and Rajesh is his father. Neha is the daughter of Neeraj and Lekha. Hence, Bindu should be Rajesh's granddaughter.
21. c 'Father of Deepak's daughter's father', is no one but Deepak's father. So, the gentleman whose only brother is Deepak's father should be an uncle to Deepak.
22. d It is quite clear that if Manju is sister-in-law of Babul then Manju is either.
Wife of Sundar or sister-in-law.

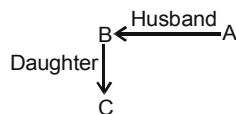
For questions 23 to 28: From the given instructions we get that

'-' stands for husband.

'+' stands for daughter.

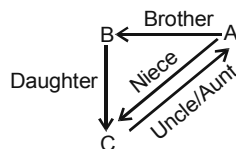
'x' stands for brother.

23. c Meaning of 'A + B x C' stands for 'A is the daughter of B', who is the brother of C. Therefore, A is the niece of C.
24. c A + B - C means A is the daughter of B, who is the husband of C. Therefore, C is the mother of A.
25. d A x B + C means A is the brother of B, who is the daughter of C. Therefore, A is the son of C.
26. a A x B - C means A is the brother of B, B is the husband of C. So A is the brother-in-law of C.
27. c C + B - A means C is the daughter of B, B is the husband of A.



Therefore, A is the mother of C.

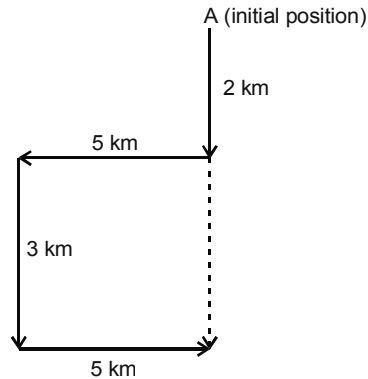
28. c B + A x C



As gender of C is not known so C can be uncle or Aunt of B.

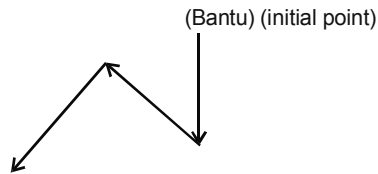
Therefore, B must be niece of C.

29. b



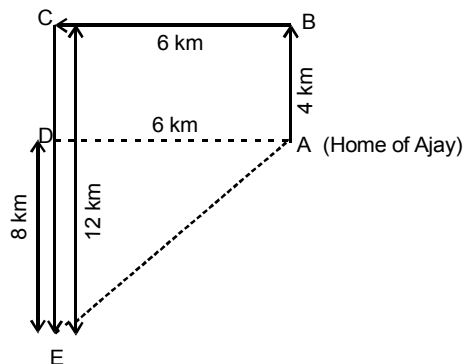
A is in the south from the starting point.

30. c



Bantu is moving towards south-west.

31. d



The distance of Ajay from his home is AE, i.e.
 $AE^2 = AD^2 + DE^2$ (By Pythagoras' theorem)

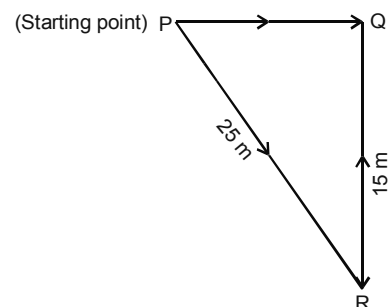
$$\text{or } AE = \sqrt{AD^2 + DE^2}$$

$$\text{So } AE = \sqrt{36 + 64}$$

$$AE = \sqrt{100}$$

$$AE = 10 \text{ km}$$

32. b The movement of P is as follows.



So PQ will be

$$PR^2 = PQ^2 + QR^2$$

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(By Pythagoras' theorem)

$$\Rightarrow PQ^2 = PR^2 - QR^2$$

$$\Rightarrow PQ = \sqrt{PR^2 - QR^2}$$

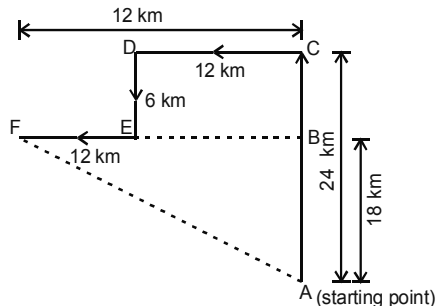
$$\Rightarrow PQ = \sqrt{25^2 - 15^2}$$

$$= \sqrt{625 - 225}$$

$$= \sqrt{400} = 20 \text{ m}$$

So P will be 20 m away from the starting point.

33. c The movement of Aditya is as follows.



$$\text{So } AF^2 = AB^2 + BF^2$$

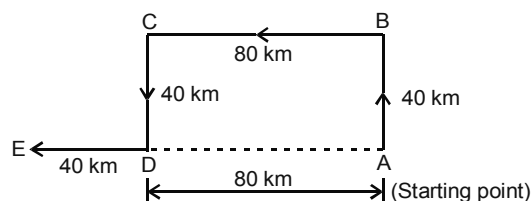
$$\Rightarrow AF = \sqrt{AB^2 + BF^2}$$

$$= \sqrt{18^2 + 24^2} = \sqrt{324 + 576} = \sqrt{900}$$

$$AF = 30 \text{ km}$$

And of course, Aditya is moving towards north-west.

34. c

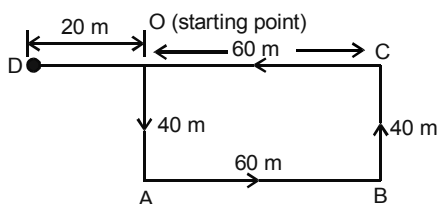


$$CB = AD = 80 \text{ km}$$

We know that $DE = 40 \text{ km}$

$$\text{So } AE = AD + DE = 80 \text{ km} + 40 \text{ km} = 120 \text{ km}$$

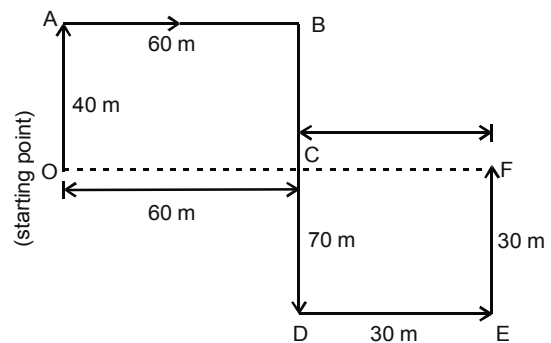
35. c The movement of Vivek is like this.



So finally Vivek is moving towards west and is 20 m away from the starting point.

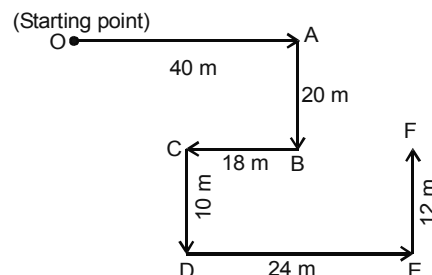
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36. b The movement of Krishna is given below.

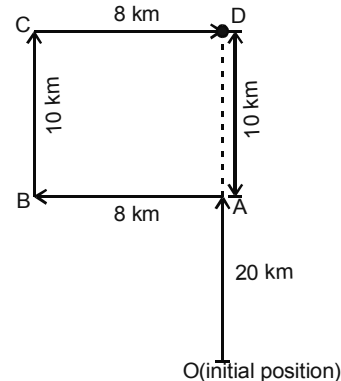


The path traversed by Krishna is OABCDEF and the distance from O to F is $OC + CF$, because $CF = DE = 30 \text{ m}$ and $OC = AB = 60 \text{ m}$. Therefore, $OF = OC + CF = AB + DE = 60 \text{ m} + 30 \text{ m} = 90 \text{ m}$ and of course towards east.

37. b The path traversed by Uttam is OABCDEF, obviously Uttam is heading towards NORTH.



38. c



The path traversed by Narendra is OABCD.

The distance from O to D is $OA + AD$, because $AD = BC = 10 \text{ km}$

$$\text{Therefore, } OD = OA + AD = 20 \text{ km} + 10 \text{ km} = 30 \text{ km}$$