KD EDUCATION ACADEMY [9582701166]

Time : 4 hour | STD 9 Maths | Total Marks : 100

kd sir 90+ questions chapter - Coordinate geometry

*** Choose the right answer from the given options. [1 Marks Each]** **[35]**

1. A point of the form (a, 0) lies on:
   (A) Quadrant IV (B) Quadrant I (C) y-axis (D) x-axis
2. The area of $\triangle AOB$ having vertices A(0, 6), 0(0, 0) and B(6, 0) is:
   (A) 36 sq units (B) 18 sq units (C) 24 sq units (D) 12 sq units
3. Points (2, -3), (4, -5), (5, -9) and (-2, -5).
   (A) Lie on the axes. (B) Lie in the i quadrant. (C) Does not lie in same quadrant. (D) Lie in the IV quadrant.
4. If the perpendicular distance of a point P from the x-axis is 5 units and the foot of the perpendicular lies on the negative direction of x-axis, then the point P has.
   (A) y coordinate = 5 or -5 (B) x coordinate = -5 (C) y coordinate = 5 only (D) y coordinate = -5 only
5. Which point does not lie in any quadrant?
   (A) (3, -4) (B) (5, 9) (C) (-3, 6) (D) (0, 3)
6. The co-ordinates of two points A and B are (4, 3) and (-5, 3) respectively. The co-ordinates of the point at which the line segment AB meets the y-axis are:
   (A) (0, 4) (B) (0, 3) (C) (3, 0) (D) (-5, 0)
7. The area of the triangle formed by the points A(2, 0), B(6, 0) and C(4, 6) is:
   (A) 24sq. unit (B) 12sq. unit (C) 10sq. unit (D) None of these
8. If P(3, 9) and Q(-3, -4), then (abscissa of P) - (ordinate of Q) is:
   (A) -1 (B) 1 (C) 7 (D) -7
9. Which of the following are the signs of abscissa and ordinate of a point in quadrant?
   (A) (-, +) (B) (-, -) (C) (+, +) (D) (+, -)
10. If $10x - 4x^2 - 3$, then the value of p(0) + p(1) is:
    (A) -3 (B) 0 (C) 3 (D) 1
11. The points (-5, 2) and (2, -5) lie in the:
    (A) II and IV quadrants, respectively. (B) Same quadrant. (C) IV and II quadrants, respectively. (D) II and III quadrants, respectively.
12. Write the correct answer in the following:
    If P(5, 1), Q(8, 0), R(0, 4), S(0, 5) and O(0, 0) are plotted on the graph paper, then the point(s) on the x-axis are:
    (A) P and R (B) R and S (C) Only Q (D) Q and O
13. If x-1 if the factor of $p(x)= x^3 - 23x^2 + kx - 120$, then the value of 'k' is:
    (A) 120 (B) 124 (C) 142 (D) 140
14. The distance of the point (-6, -2) from y-axis is:

(A) 2 units (B) 6 units (C) 38 units (D) 8 units

15. The point of intersect of the coordinate axes is:

(A) Ordinate (B) Abscissa (C) Quadrant (D) Origin

16. The equation of y-axis is:

(A) $x = 0$ (B) $y = x$ (C) $y = 0$ (D) None of these.

17. The name of each part of the plane formed by the two lines in the Cartesian plane is:

(A) Origin (B) Quadrant (C) x-axis (D) y-axis

18. The perpendicular distance of the point P(3, 4) from the y-axis is:

(A) 7 (B) 3 (C) 5 (D) 4

19. The co-ordinates of a point below the x-axis lying on y-axis at a distance of 4 units are.

(A) (0, 4) (B) (4, 0) (C) (-4, 0) (D) (0, -4)

20. The measure of the angle between the coordinate axes is:

(A) 0º (B) 90º (C) 180º (D) 360º

21. A point is at a distance of 3 units from the x-axis and 7 units from the y-axis. Which of the following may be the co-ordinates of the point?

(A) (0, 0) (B) (4, 5) (C) (3, 7) (D) (7, 3)

22. If $x > 0$ and $y < 0$ then the point (x, y) lies in quadrant.

(A) I (B) III (C) II (D) IV

23. The point (other than origin) for which abscissa is equal to the ordinate will lie in quadrant.

(A) I only (B) I or II (C) I or III (D) II or IV

24. Which of the following point does not lie on the line $y = 2x + 3$?

(A) (-5, -7) (B) (3, 7) (C) (-1, 1) (D) (3, 9)

25. Write the correct answer in the following:

On plotting the points O(0, 0), A(3, 0), B(3, 4), C(0, 4) and joining OA, AB, BC and CO which of the following figure is obtained?

(A) Square. (B) Rectangle. (C) Trapezium. (D) Rhombus.

26. A point both of whose co-ordinates are positive lies in:

(A) Quadrant I and III (B) Quadrant III only (C) Quadrant I only (D) Quadrant II and IV

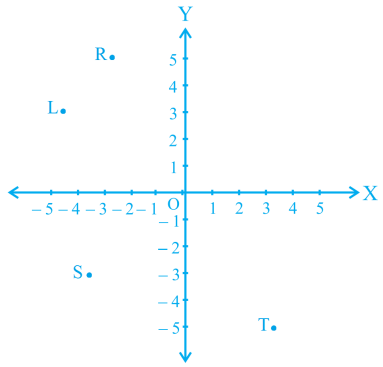
27. The radius of a circle whose radius is 5 units and whose centre lies on the origin. The co-ordinates of any point lies on the circle and on the y-axis are:

(A) (5, 0) only (B) (0, 5) only (C) (5, 0) or (-5, 0) (D) (0, 5) or (0, -5)

28. The abscissa of a point is positive in the:

(A) First and Second quadrant. (B) Second and Third quadrant. (C) Third and Fourth quadrant. (D) Fourth and First quadrant.

29. In Figure, the point identified by the coordinates (-5, 3) is:



(A) T (B) L (C) R (D) S

30. The point which lies on x-axis at a distance of 3 units in the positive direction of x-axis is:

(A) (0, -3) (B) (-3, 0) (C) (0, 3) (D) (3, 0)

31. If A (-2, 3) and B(-3, 5) are two given points then (abscissa of A) - (abscissa of B) = ?

(A) -2 (B) 1 (C) -1 (D) 2

32. If O(0, 0), A(3, 0), B(3, 4) and C(0, 4) are the vertices of a quadrilateral OABC, then OABC is:

(A) Trapezium. (B) Rectangle. (C) Square. (D) Rhombus.

33. The points A(-2,3), B(-2,-4) and C(5,-4) are the vertices of the square ABCD, then the co-ordinates of the vertex D are:

(A) (5, 3) (B) (3, 3) (C) (0, 0) (D) (3, -4)

34. The distance of the point (-3, -2) from x-axis is:

(A) $\sqrt{13}$ units (B) 5 units (C) 3 units (D) 2 units

35. If $x^2 + kx - 3 = (x - 3)(x + 1)$, then the value of 'k' is:

(A) -3 (B) 2 (C) -2 (D) 3

*** A statement of Assertion (A) is followed by a statement of Reason (R). [5]**
Choose the correct option.

36. **Directions:** In the following questions, the Assertions (A) and Reason(s) (R) have been put forward. Read both the statements carefully and choose the correct alternative from the following:

Assertion: The coordinate of the point $\left(\frac{5}{2}, 0\right)$ where the line 2x - 3y - 5 = 0 cut the x - axis.

Reason: Line 2x - 3y - 5 = 0 will cut the x - axis at x = 0, also it satisfy the equation of line 2x - 5 = 0 $x = \frac{5}{2}$ hence, $\left(\frac{5}{2}, 0\right)$.

a. Both Assertion and Reason are correct and Reason is the correct explanation for Assertion.
b. Both Assertion and Reason are correct and Reason is not the correct explanation for Assertion.
c. Assertion is true but the reason is false.
d. Both assertion and reason are false.

37. **Directions:** In the following questions, the Assertions (A) and Reason(s) (R) have been put forward. Read both the statements carefully and choose the correct alternative from the following:

Assertion: The point which divides the line segment joining the points (7, -6) and (3, 4) in ratio 1 : 2 internally lies in the IV quadrant.

Reason: The ratio in which the point $P\left(\frac{3}{4}, \frac{5}{12}\right)$ divides the line segment joining the Points $A\left(\frac{1}{2}, \frac{3}{2}\right)$ and B(2, -5) is 1 : 5.

a. Both Assertion and Reason are correct and Reason is the correct explanation for Assertion.
b. Both Assertion and Reason are correct and Reason is not the correct explanation for Assertion.
c. Assertion is true but the reason is false.
d. Both assertion and reason are false.

38. **Directions:** In the following questions, the Assertions (A) and Reason(s) (R) have been put forward. Read both the statements carefully and choose the correct alternative from the following:

Assertion: The line 3x + y - 9 = 0 divides the line joining the points (1, 3) and (2, 7) internally in the ratio 3 : 4.

Reason: If $\left(\frac{a}{3}, 4\right)$ is the mid - point of the segment joining the points P (-6, 5) and R (-2, 3), then the value of 'a' is -6.

a. Both Assertion and Reason are correct and Reason is the correct explanation for Assertion.
b. Both Assertion and Reason are correct and Reason is not the correct explanation for Assertion.
c. Assertion is true but the reason is false.
d. Both assertion and reason are false.

39. **Directions:** In the following questions, the Assertions (A) and Reason(s) (R) have been put forward. Read both the statements carefully and choose the correct alternative from the following:

Assertion: If the distance of P(x, y) from A(6, 2) and B(-2, 6) are equal, then y = 3x.

Reason: $\left(\frac{5}{3}, 3\right)$ are the co - ordinates of the points of trisection of the line segment joining the points A(1, -2) and B(-3, 4).

a. Both Assertion and Reason are correct and Reason is the correct explanation for Assertion.
b. Both Assertion and Reason are correct and Reason is not the correct explanation for Assertion.
c. Assertion is true but the reason is false.
d. Both assertion and reason are false.

40. **Directions:** In the following questions, the Assertions (A) and Reason(s) (R) have been put forward. Read both the statements carefully and choose the correct alternative from the following:

Assertion: Mirror image of the point on the (9, -8) in x - axis is (-9, -8)

Reason: The coordinates of the point which lies on y - axis at a distance of 4 units in negative direction of y - axis is (6, 5)

a. Both Assertion and Reason are correct and Reason is the correct explanation for Assertion.
b. Both Assertion and Reason are correct and Reason is not the correct explanation for Assertion.
c. Assertion is true but the reason is false.
d. Both assertion and reason are false.

*** Answer the following questions in one sentence. [1 Marks Each] [2]**

41. Without plotting the points indicate the quadrant in which they will lie, if:

Ordinate is 5 and abscissa is -3

42. Without plotting the points indicate the quadrant in which they will lie, if:
Ordinate is 5 and abscissa is 3.

* Answer the following short questions. [2 Marks Each] [8]

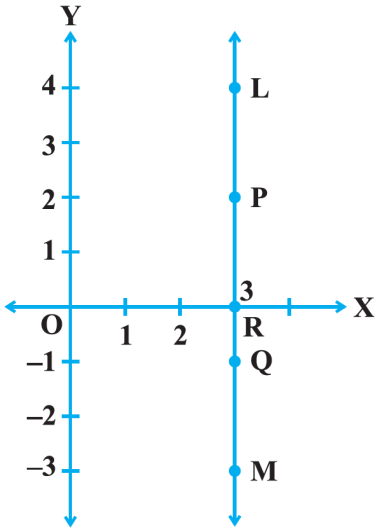
43. What is the name of each part of the plane formed by the two lines?

44. Locate the points (5, 0), (0, 5), (2, 5), (5, 2), (-3, 5), (-3, -5) and (6, 1) in the Cartesian plane.

45. Plot the points (x, y) given by the following table:

x	2	4	-3	-2	3	0
y	4	2	0	5	-3	0

46. LM is a line parallel to the y-axis at a distance of 3 units:

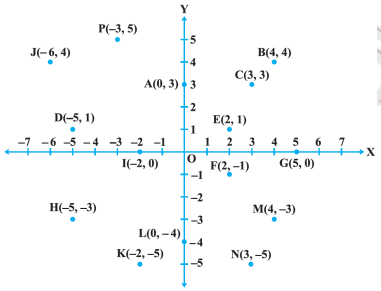


i. What are the coordinates of the points P, R and Q?
ii. What is the difference between the abscissa of the points L and M?

* Answer the following questions. [3 Marks Each] [9]

47. Write the coordinates of the vertices of a rectangle whose length and breadth are 5 and 3 units respectively, one vertex at the origin, the longer side lies on the x-axis and one of the vertices lies in the third quadrant.

48. From the answer the following:



i. Write the points whose abscissa is 0
ii. Write the points whose ordinate is 0
iii. Write the points whose abscissa is -5

49. Plot the following points and check whether they are collinear or not:
(0, 0), (2, 2), (5, 5)

* Questions with calculation. [4 Marks Each] [12]

50. Points A(5, 3), B(-2, 3) and D(5, -4) are three vertices of a square ABCD. Plot these points on a graph paper and hence find the coordinates of the vertex C.

51. In which quadrant or on which axis each of the following points lie?
(-3, 5), (4, -1), (2, 0), (2, 2), (-3, -6)

52. On the plane of a graph paper draw X' OX and YOY' as coordinate axes and plot each of the following points.

i. A(5, 3)
ii. B(6, 2)
iii. C(-5, 3)
iv. D(4, -6)
v. E(-3, -2)
vi. F(-4, 4)
vii. G(3, -4)
viii. H(5, 4)
ix. I(0, 6)
x. J(-3, 0)
xi. K (0, -2)
xii. O(0, 0)

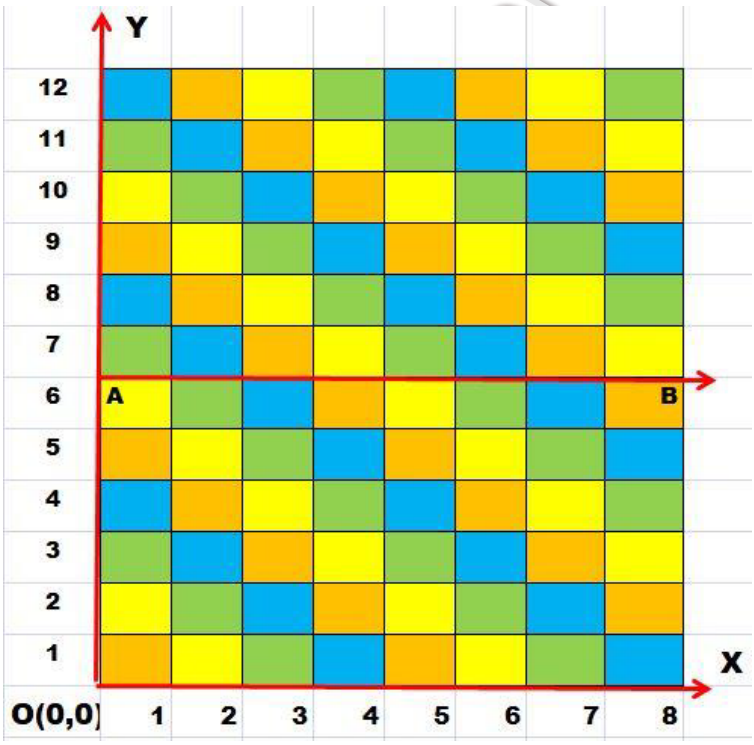
* Answer the following questions. [5 Marks Each] [5]

53. Plot the points A(1, -1) and B(4, 5):

i. Draw a line segment joining these points. Write the coordinates of a point on this line segment between the points A and B.
ii. Extend this line segment and write the coordinates of a point on this line which lies outside the line segment AB.

* Case study based questions. [24]

54. Read the Source/ Text given below and answer these questions:



Roshan decorated one of his bathroom wall with tiles as shown in the picture. He was having tiles of four colours orange, yellow, green and blue. He fitted the tiles in 8 columns and 12 rows. The size of one tile was 1 foot × 1 foot and the area of each tile is 1 foot^2. He arranged the tile in such a way that colour of tiles in each row and column were in the pattern: Orange → Yellow → green → Blue → Orange → ..... and so on.

Now answer the following questions:

i. Which colour tile was fitted at the point with coordinates (5, 3)?
   a. Orange.
   b. Yellow.
   c. Green.
   d. Blue.

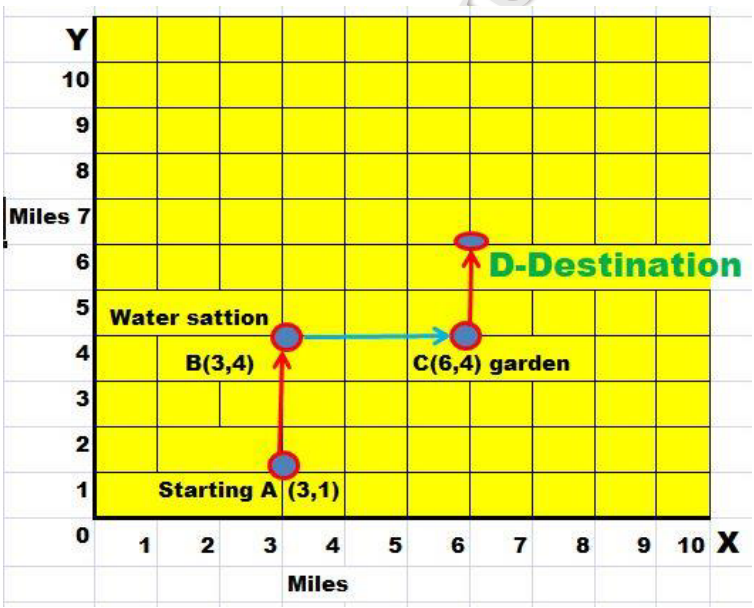
ii. Which colour tile was fitted at the point with coordinates (7, 7)?
   a. Orange.
   b. Yellow.
   c. Green.
   d. Blue.

iii. Which colour tile was fitted at the point with coordinate (2, 5)?
   a. Orange.
   b. Yellow.
   c. Green.
   d. Blue.

iv. What is the area of the tiles fitted in the rectangular part OABX?
   a. 50 foot^2
   b. 24 foot^2
   c. 12 foot^2
   d. 48 foot^2

v. What is the ordinate of top row tiles?
   a. 8
   b. 12
   c. 16
   d. 6

55. Read the Source/ Text given below and answer these questions:



Arun is participating in an 8 miles walk. The organizers used a square coordinate grid to plot the course. The starting point is at A (3, 1). At B (3, 4), there's a water station to

make sure the walkers stay hydrated. From water station, the walkway turns right and at C (6,4) a garden is situated to keep walkers fresh. From the garden, the walkway turns left and finally, Arun reaches at destination D to complete 8 miles.

i. How far is the water station B from the starting point A?
   a. 4 miles
   b. 3 miles
   c. 1 mile
   d. 5 miles

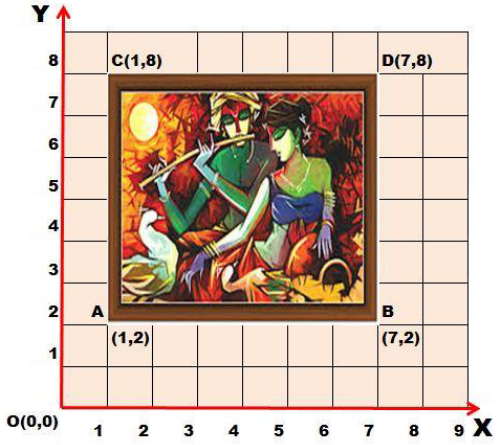
ii. How far is the water station B from garden C?
   a. 3 miles
   b. 4 miles
   c. 1 mile
   d. 5 miles

iii. What is the abscissa of destination point D:
   a. 3
   b. 5
   c. 3
   d. 6

iv. What is the ordinate of destination point D?
   a. 3
   b. 2
   c. 6
   d. 5

v. What are the coordinates of destination point D?
   a. (5, 6)
   b. (6, 5)
   c. (3, 9)
   d. (6, 6)

56. Read the Source/ Text given below and answer any four questions:



Rohit was putting up one of his paintings in his living room. Before this Rohit had put a grid on the wall where each unit measured equal to a foot. The upper-left corner of the frame is at point C(1, 8) and the upper-right corner at D(7, 8). The bottom-left corner is at A(1, 2) and the bottom-right corner at B(7, 2).

Please answer the following questions:

i. What is the width of the painting plus frame?
   a. 5 feet
   b. 8 feet
   c. 9 feet
   d. 6 feet

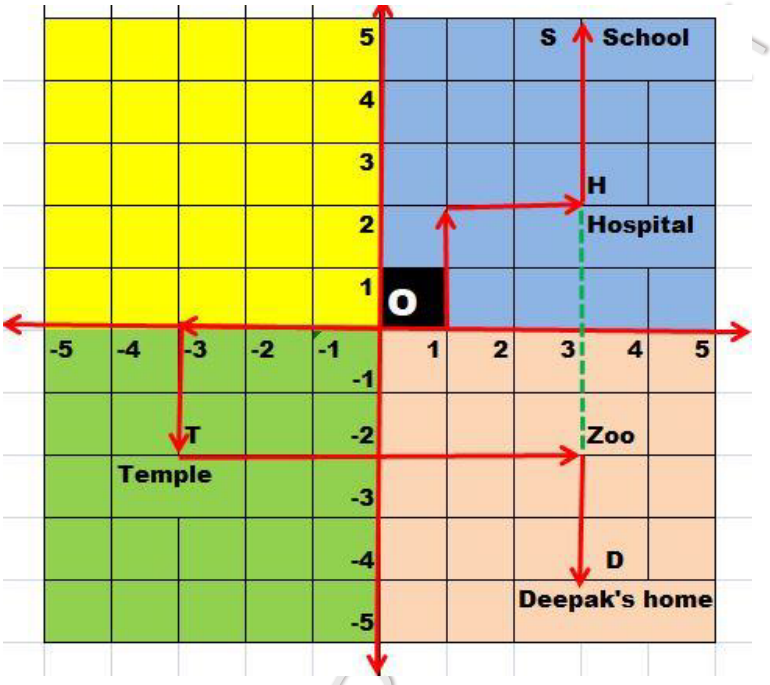
ii. What is the length of the painting plus frame?
   a. 9 feet
   b. 8 feet
   c. 6 feet
   d. 5 feet

iii. Which sides of the painting are parallel to x-axis?
   a. AB and CD
   b. AC and BD
   c. Diagonals AD and BC
   d. No one

iv. Which sides of the painting are parallel to y-axis?
   a. AB and CD
   b. AC and BD
   c. Diagonals AC and BD
   d. No one

v. Point A, B, C and D lie in which quadrant?
   a. I
   b. II
   c. III
   d. IV

57. Read the Source/ Text given below and answer these questions:



In the above picture, one small square is of size 1km × 1km. From the starting point O(0, 0) Deepak started to drive towards his home. He first drives 3km in left then he turned to his left and drove 2km, there he found a temple. He worshipped there and drove 6km in the left direction, there is a zoo and from the zoo, he drives 2km on the right side, then he reached his home. From O Sanjay drove for his school, he drove 1km to his right then took a left turn and drives 2km then again took a right turn and drives 2km. He found a hospital in the way. From Hospital he drove 3km and finally reached his school.

i. What are the coordinates of the Hospital?
   a. (3, 2)
   b. (2, 3)
   c. (3, 3)

d. (5, 5)

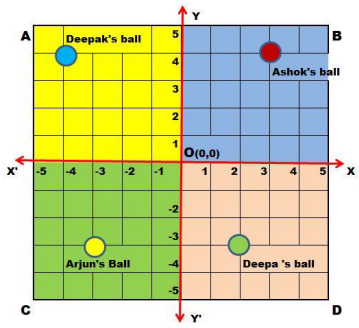
ii. What is common abscissa of school, Hospital, Zoo and Deepak's home?
   a. 3
   b. 5
   c. -3
   d. -5

iii. What is the common ordinate of temple and Zoo?
   a. 3
   b. 5
   c. -3
   d. -2

iv. Deepak Drove in which quadrants?
   a. I & II
   b. II and III
   c. III and IV
   d. IV and I

v. Sanjay Drove in which quadrants?
   a. I only
   b. II and III
   c. III and IV
   d. II and I

58. Read the Source/ Text given below and answer these questions:



There is a square park ABCD in the middle of Saket colony in Delhi. Four children Deepak, Ashok, Arjun and Deepa went to play with their balls. The colour of the ball of Ashok, Deepak, Arjun and Deepa are red, blue, yellow and green respectively. All four children roll their ball from centre point O in the direction of XOY, X'OY, X'OY' and XOY'. Their balls stopped as shown in the above image.

Answer the following questions:

i. What are the coordinates of the ball of Ashok?
   a. (4, 3)
   b. (3, 4)
   c. (4, 4)
   d. (3, 3)

ii. What are the coordinates of the ball of Deepa?
   a. (2, -3)
   b. (3, 2)
   c. (2, 3)
   d. (2, 2)

iii. What the line XOX' is called?
   a. y-axis.
   b. ordinate.
   c. x-axis.

d. origin.

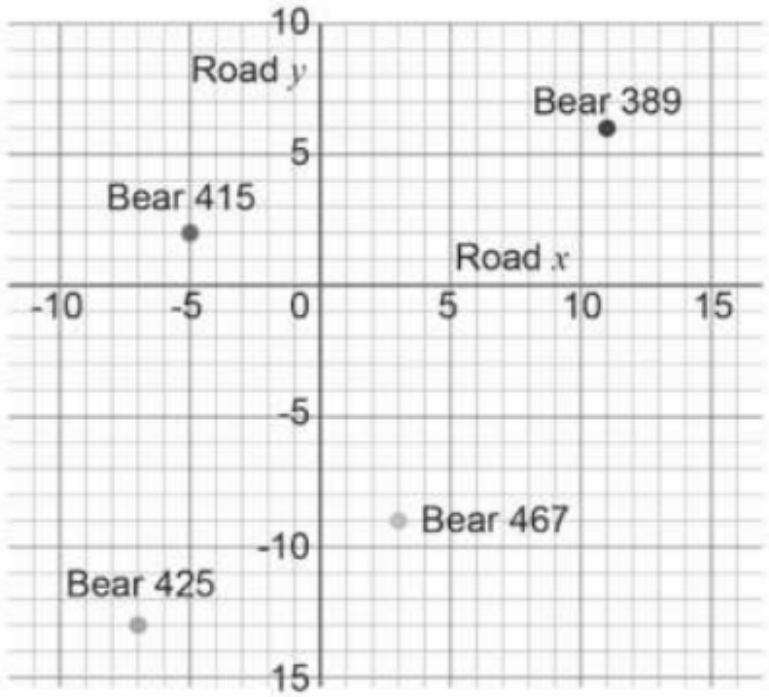
iv. What the point O(0, 0) is called?

a. y-axis.
b. ordinate.
c. x-axis.
d. origin.

v. What is the ordinate of the ball of Arjun?

a. -3
b. 3
c. 4
d. 2

59. A forest ranger keeps track of bears in his area. He plotted their location on a graph. The origin represents the ranger's control room's location. To access and maintain equipment, Road x and Road yhave been laid and paved inside the forest. They pass through the control room.



One unit on the graph paper represents 1 km.

1. Which bear is nearest to a paved road?

A. Bear 389
B. Bear 415
C. Bear 425
D. Bear 467

2. Bear 467 has been injured. The forest rescue team starts from the control room and decides to use the paved road as much as possible. Which road should they take?

3. How far is Bear 425 from Road x?

4. A tiger is at (11, 4). How far from it is the nearest bear?

A. 2 km
B. 4 km
C. 5 km
D. 7 km

5. In the forest, rain shelters are at an interval of 2 km along paved roads. A forest ranger is travelling on Road x. He crosses a rain shelter located at (3, 0).
What is likely to be the location of the next shelter?

6. The control room receives a message about trespassers located at (−9, −8). The trespassers were seen moving towards Road x on foot. The ranger immediately dispatches a team of guards in a jeep towards them. The guards encounter the trespassers before crossing Road x.
Which of the following is most likely to be the location of the encounter?

A. (−9, −14)
B. (−9, −5)
C. (−9, 4)
D. (9, 5)

7. Ravi planted a red maple tree sapling. The height of the sapling is 0.25 m. The average growth rate of the height of a red maple tree is 0.27 m per year.
The average life of a red maple tree is 80−100 years. Ravi estimated that his tree will grow up to 27 m.
What is the likely reason behind his estimation?

8. Which of the following equations represents the height (h) of the red maple tree after 't' years of planting?

A. h=0.25+0.27
B. h=0.25t+0.27
C. h=0.25+0.27t
D. h=0.25+0.27t

9. Which of the following is true for the line with equation: 1.x+0.y-4=0?

A. The distance of the line from the x-axis is 1.
B. The distance of the line from the Y-axis is 4.
C. The distance of the line from the Y-axis is −1.
D. The distance of the line from the x-axis changes from 1 to −4.

10. The equation of a line is ax+by+c=0.
What conditions ensure that the distance of the line from an axis is constant?

A. c = 0 and a, b ≠ 0
B. c < 0 and a, b ≠ 0
C. c, b ≠ 0 and a =1
D. c, b ≠ 0 and a = 0

----- Don't wait for the perfect moment. Start small and take consistent action towards your goals. -----