

CO-ORDINATE GEOMETRY

CLASS IX (2025-26)

- 1 A policeman and a thief are equidistant from the jewel box. Upon considering jewel box as origin, the position of policeman is $(0, 5)$. If the ordinate of the position of thief is zero, then write the coordinates of the position of thief
ANS: Since both policeman and thief are equidistant from the jewel box (origin), so coordinates of the position of thief are $(5, 0)$ or $(-5, 0)$.
- 2 Write two points lying on the x -axis, which are at equal distances from the origin
ANS: $P(4, 0)$ and $Q(-4, 0)$ or $P(5, 0)$ and $Q(-5, 0)$
Note: Answer may differ.
- 3 In which quadrant, the points $P(2, -3)$ and $Q(-3, 2)$ lie?
ANS: $P(2, -3)$ lies in IVth quadrant and $Q(-3, 2)$ lies in IInd quadrant.
- 4 Find the perpendicular distance of the point $P(5, 7)$ from the y -axis.
ANS: It is equal to 5 units.
- 5 The point $P(a, b)$ lies in the IVth quadrant. Which is greater: a or b ?
ANS: In the IVth quadrant, abscissa (x -coordinate) is positive and ordinate (y -coordinate) is negative. Hence, abscissa $>$ ordinate, i.e. $a > b$.
- 6 Write the coordinate of a point whose abscissa is -7 and ordinate is 2 .
ANS: $(-7, 2)$ as abscissa represents x -coordinate, while ordinate is y -coordinate
- 7 What is the sign of x -coordinate of a point lying in third quadrant?
ANS: Negative
- 8 Which of the following points lies on the x -axis?
 $A(0, 4)$, $B(1, 0)$, $C(0, -7)$ and $D(-5, 0)$
ANS: The coordinates of the point lying on the x -axis is in the form of $(x, 0)$, i.e. the ordinate of the point must be zero.
* Points $B(1, 0)$ and $D(-5, 0)$ lies on x -axis.
- 9 If a point lies on the y -axis, then what will be its abscissa?
ANS: For the point lying on the y -axis, then its abscissa, i.e. x -coordinate must be zero.
- 10 If the perpendicular distance of a point A from the x -axis is 6 units and foot of perpendicular lies on the negative direction of the x -axis, then write the ordinate of point A .
ANS: Ordinate of point A is 6 or -6 .
- 11 Which whole number represents the y -coordinate of any point lying on the x -axis?
ANS: Zero (0)
- 12 Which of the following points lies on the x -axis and which on the y -axis?
 $A(0, 2)$, $B(5, 6)$, $C(-3, 0)$, $D(0, -3)$, $E(0, 4)$, $F(6, 0)$, $G(3, 0)$
ANS: We know that the coordinates of a point which is in the form of $(x, 0)$ lies on the x -axis, while $(0, y)$ lies on the y -axis. Hence, $C(-3, 0)$, $F(6, 0)$ and $G(3, 0)$ lies on the x -axis and $A(0, 2)$, $D(0, -3)$ and $E(0, 4)$ lies on the y -axis
- 13 In which quadrant, will the point lies, if
 - (i) the ordinate is 2 and the abscissa is -3
 - (ii) the abscissa is -4 and the ordinate is -2
 - (iii) the ordinate is -3 and the abscissa is 4
 - (iv) the ordinate is 3 and the abscissa is -2ANS: (i) Here, abscissa is negative and ordinate is positive, so the point is $(-3, 2)$. Hence it lies in IInd quadrant.
(ii) Here, abscissa and ordinate both are negative, the point is $(-4, -2)$, which lies in IIIrd quadrant.
(iii) Here, abscissa is positive and ordinate is negative. Therefore, the point $(4, -3)$ lies in IVth quadrant.
(iv) Here, abscissa is negative and ordinate is positive. Therefore, the point $(-2, 3)$ lies in IInd quadrant.

- 14 If the coordinates of two points are $P(-2, 3)$ and $Q(-3, 5)$, then find (abscissa of P) – (abscissa of Q).

ANS: The abscissa (x -coordinate) of point P is (-2) and that of Q is (-3) .

$$^* (\text{Abscissa of } P) - (\text{abscissa of } Q) = (-2) - (-3) = -2 + 3 = 1 \text{ unit.}$$

- 15 Find the distance of the following points from the y -axis: $P(3, 0)$, $Q(0, -3)$, $R(22, -5)$, $S(-3, -1)$.

ANS: Distance of the point from the y -axis is the x -coordinate of the given point. So, the distances of points P , Q , R and S from the y -axis are 3 units, 0 unit, 22 units and -3 units (negative sign indicates that the distance is measured along negative x -axis) respectively.

- 16 Find the coordinates of a point:

(i) whose ordinate is 6 and lies on the y -axis

(ii) whose abscissa is -3 and lies on the x -axis.

ANS: For the point (x, y) , x represents abscissa and y represents ordinate. Hence,

(i) The coordinates of a point whose abscissa is zero lies on the y -axis.

Therefore, required coordinates = $(0, 6)$.

(ii) The coordinates of a point whose ordinate is zero and lies on the x -axis. Therefore, required coordinates = $(-3, 0)$

- 17 Write abscissa of the following points: $(4, 0)$, $(5, 23)$, $(23, 4)$ and $(0, 24)$.

ANS: Abscissa of $(4, 0) = 4$

Abscissa of $(5, 23) = 5$

Abscissa of $(23, 4) = 23$ and

Abscissa of $(0, 24) = 0$.

- 18 In which quadrant the following points lie?

$(3, 2)$, $(2, -3)$, $(-4, 4)$ and $(-2, -3)$

ANS: Point $(3, 2)$ lies in Ist quadrant

Point $(2, -3)$ lies in IVth quadrant

Point $(-4, 4)$ lies in IInd quadrant

Point $(-2, -3)$ lies in IIIrd quadrant

- 19 Write the equation of the x -axis, the y -axis and the coordinates of the point where these two coordinate axes intersect each other.

ANS:

Equation of the x -axis is $y = 0$ and equation of the y -axis is $x = 0$.

The coordinates of required point are $(0, 0)$.

- 20 In which quadrant, will the point lies, if

(i) the ordinate is 2 and the abscissa is -3

(ii) the abscissa is -4 and the ordinate is -2 .

Ans: (i) Here, abscissa is negative and ordinate is positive, so the point is $(-3, 2)$. Hence it lies in IInd quadrant.

(ii) Here, abscissa and ordinate both are negative, the point is $(-4, -2)$, which lies in IIIrd quadrant.

- 21 If the perpendicular distance of a point A from the x -axis is 6 units and foot of perpendicular lies on the negative direction of the x -axis, then write the ordinate of point A .

Ans: Ordinate of point A is 6 or -6 .

- 22 A point both of whose coordinates are negative will lie in _____ quadrant.

IV th quadrant

- 23 $(-2, 0)$ lies on the

- (a) y -axis (b) x -axis (c) $y = x$ (d) $x + y = 0$
(b) x -axis

- 24 The points whose abscissa and ordinate have different signs will lie in ____ and ____ quadrants.
II and IV quadrants.
- 25 Points (other than origin) for which abscissa is equal to the ordinate will lie in
i) I quadrant only
ii) I and II quadrants
iii) I and III quadrants
iv) II and IV quadrants
- 26 Signs of the abscissa and ordinate of a point in the second quadrant are respectively
i) +, + ii) -, -
iii) -, + iv) +, -
- 27 The point $(-10, 0)$ lies
i) on the x -axis
ii) in the second quadrant
iii) on the y -axis
iv) in the fourth quadrant
- 28 Abscissa of all the points on the y -axis is ____
i) 0 ii) 1
iii) 2 iv) any number
- 29 A point both of whose coordinates are negative will lie in
i) I quadrant
ii) II quadrant
iii) III quadrant
iv) IV quadrant
- 30 The perpendicular distance of the point $P(3, 4)$ from the y -axis is ---
- 31 In which quadrant does the point $(-3 + \sqrt{5}, -3 - \sqrt{5})$ lie?
3rd quadrant
- 32 If the coordinates of two points P and Q are $(-2, 3)$ and $(-6, 5)$, then the value of $(y - \text{coordinate of } Q) - (x - \text{coordinate of } Q)$ is _____.
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- 33 A point both of whose coordinates are negative will lie in _____ quadrant.
IIIrd quadrant