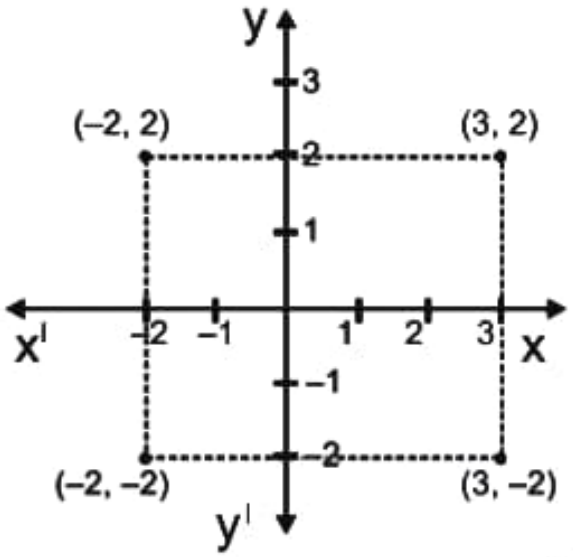

Coordinate Geometry

Cartesian Plane

- two perpendicular line
- horizontal line
  - x-axis
    - abscissa
- Vertical line
  - y-axis
    - ordinate

Quadrants

- I Quadrant
  - x>0, y>0
- II Quadrant
  - x<0, y>0
- III Quadrant
  - x<0, y<0
- IV Quadrant
  - x>0, y<0

Point

- any point
  - (x, y)
- fixed point
  - Origin (0, 0)
    - Moving down on y-axiy
      - (0, –a)
    - Moving up on y-axiy
      - (0, a)
    - Moving right on x-axiy
      - (a, 0)
    - Moving left on x-axiy
      - (–a, 0)

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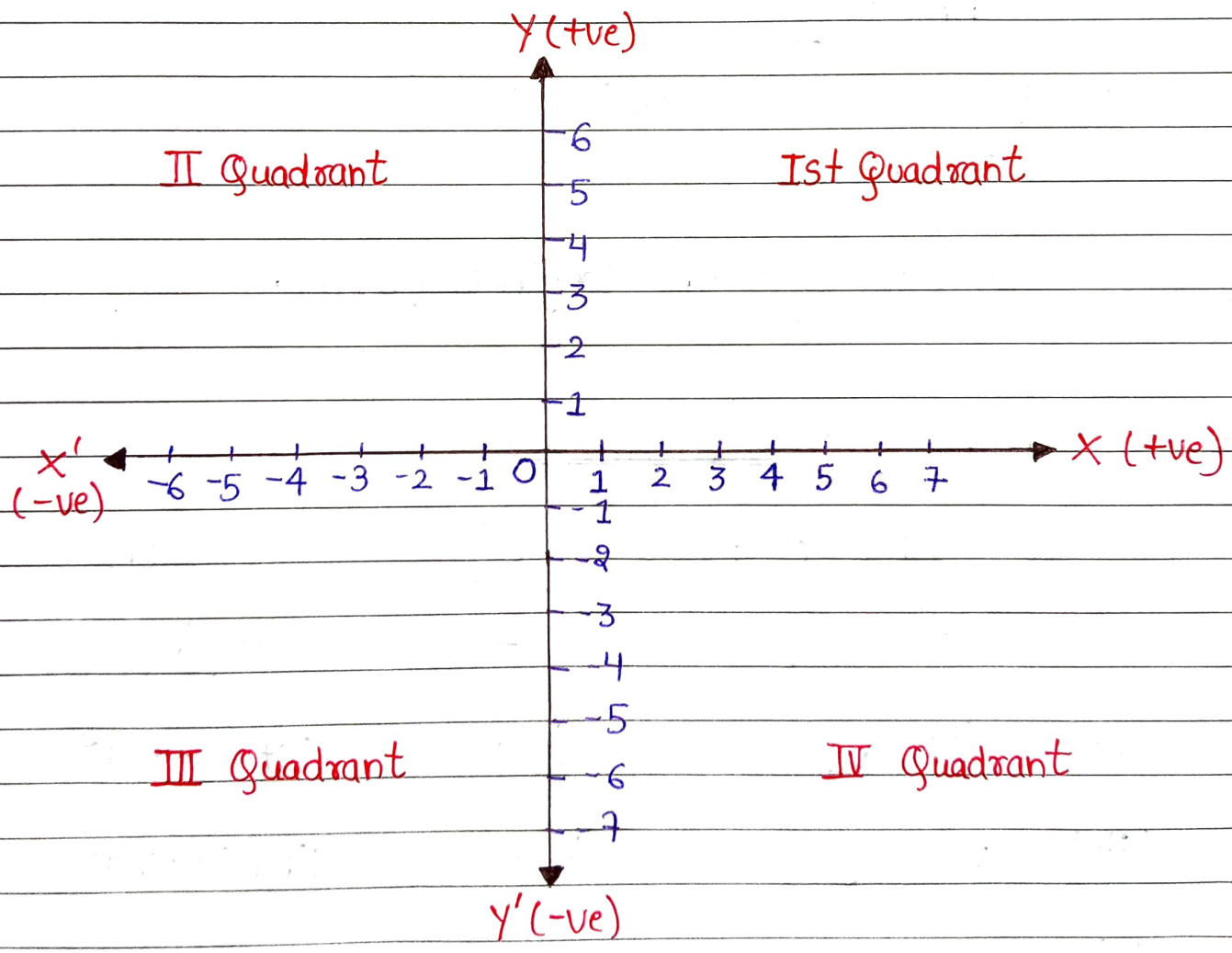
CO-ORDINATE GEOMETRY

- Cartesian System : Take two number lines, one horizontal and one vertical and then combine them in such a way that they intersect each other at zeroes, ~~इसे~~ को Cartesian plane ~~कहते~~ हैं।



- Horizontal Line is Called x-axis.
- Vertical Line is Called Y-axis.
- Intersection point of these two lines is called Origin.

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■ **Coordinates :** किसी भी Point को Cartesian Plane पर Locate करने के लिए उसको ordered Pair (x, y) में लिखते हैं।

* x is location of point on X-axis and is called **Abscissa**.

* y is location of point on Y-axis and is called **Ordinate**.

■ **NOTE :** Coordinate of the Origin is $(0, 0)$.

■ **Quadrant Sign Convention :**

	Value of Point	Sign	Location
(i)	$x=0, y=0$	—	Origin
(ii)	$x>0, y>0$	$(+, +)$	Ist Quadrant
(iii)	$x<0, y>0$	$(-, +)$	IInd Quadrant
(iv)	$x<0, y<0$	$(-, -)$	IIIrd Quadrant
(v)	$x>0, y<0$	$(+, -)$	IVth Quadrant

Note : If a point lie on x-axis or y-axis it does lie in any quadrant.

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» Is the Coordinates $(x,y) = (y,x)$?

चलो एक example लेते हैं, Let $x = -4$ and $y = -2$

So $(x,y) = (-4,-2)$

& $(y,x) = (-2,-4)$

Now $(x,y) \neq (y,x)$ क्योंकि Cartesian Plane पर दोनों की Position different होगी।

* Note : $(x,y) = (y,x)$, only if $\boxed{x=y}$

« जाओ अब MCQ Practice करलो »

PART (A)

1. The abscissa of a point is the distance of the point from

   a) x-axis b) y-axis

   c) origin d) None of these

2. The y-coordinate of a point is the distance of that point from

   a) x-axis b) y-axis

   c) origin d) None of these

3. If both the coordinates of a point are negative then that point will lie in

   a) First quadrant b) Second quadrant

   c) Third quadrant d) Fourth quadrant

4. If abscissa of a point is zero then that point will lie

   a) on x-axis b) on y-axis

   c) at origin d) in Ist quadrant

5. If $x>0$ and $y<0$, then the point $(x, -y)$ lies in _____.

   a) I quadrant b) II quadrant

   c) III quadrant d) IV quadrant

6. Point (a, o) lies

   a) on x-axis b) on y-axis

   c) in third quadrant d) in fourth quadrant

7. Signs of abscissa and ordinate of a point in the fourth quadrant are respectively.

   a) +, + b) –, –

   c) –, + d) +, –

8. Ordinate of a point is positive is

   a) I and IV quadrants b) I quadrant only

   b) I and II quadrants d) I and III quadrants

9. The point which lies on y-axis at a distance of 10 units in the negative direction of y–axis is

   a) (10, 0) b) (0, 10)

   c) (–10, 0) d) (0, –10)

10. The point whose abscissa and ordinate have different signs will lie in

a) I and II quadrants
b) I and III quadrants
b) II and III quadrants
d) II and IV quadrant

11. Which of the point P(0, 3), Q(1, 0), R(0, –1), S(–5, 0), T(1, 2) do not lie one x-axis ?

a) P and R only
b) Q and S only
c) P, R and T
d) Q, S and T

12. If the coordinates of the points are P(–2, 3), and Q (–3, 5), then (abscissa of P) – (abscissa of Q) is

a) –5
b) 1
c) –1
d) –2

13. Point (1, 1), (1, –1), (–1, 1), (– 1, –1)

a) lie in I quadrant
b) lie in III quadrant
c) lie in I and III quadrants
d) do not lie in the same quadrant

14. The point of intersection of the coordinate axes is

a) Abscissa
b) Ordinate
c) Quadrant
d) Origin

15. The abscissa and ordinate of the origin are

a) 1, 0
b) 1, 1
c) 0, 1
d) 0, 0

16. The measure of the angle between the coordinate axes is

a) 0°
d) 90°
c) 180°
d) 270°

17. The perpendicular distance of the point p(– 4, –3) from *x-axis* is

a) –4
b) –3
c) 4
d) 3

18. The perpendicular distance of the point p(–7, 2) from *y-axis* is

a) –7
b) 7
c) 2
d) None of these

19. The distance of the point p(3, 4) from the origin is

a) 3 b) 4

c) 7 d) 5

20. Which of the points A(–5, 0), B(0, –3), C(3, 0), D(0, 4) are closer to the origin ?

a) A b) B

c) D d) Points B and C both

1. b) y-axis
2. a) x-axis
3. c) third quadrant
4. b) on y-axis
5. a) I quadrant
6. a) on x-axis
7. d) +, –
8. c) I and II quadrants
9. d) (0, –10)
10. d) II and IV quadrants
11. c) P, R and T
12. b) 1
13. d) do not lie in the same quadrant
14. d) Origin
15. d) (0, 0)
16. b) 90°
17. d) 3
18. b) 7
19. d) 5
20. d) Points B and C both