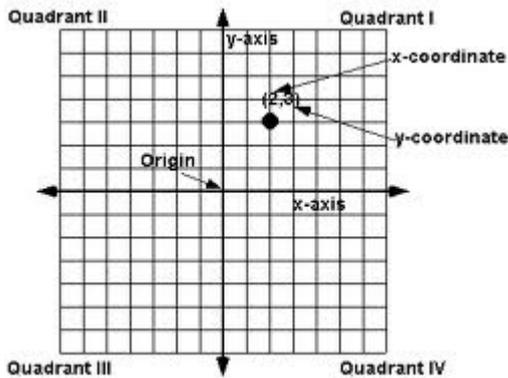


# Co-ordinate axes and co-ordinate planes

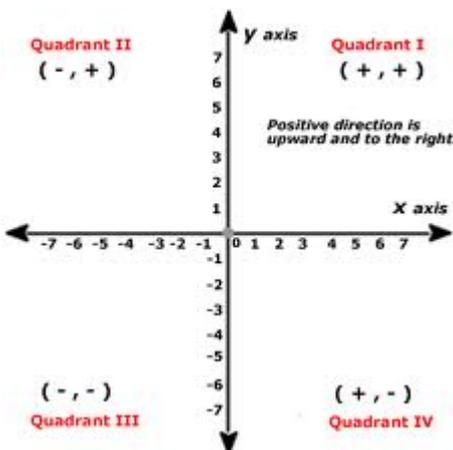
Created: Wednesday, 13 July 2011 12:10 | Published: Wednesday, 13 July 2011 12:10 | Written by [Super User](#) | [Print](#)

## Basic Definitions



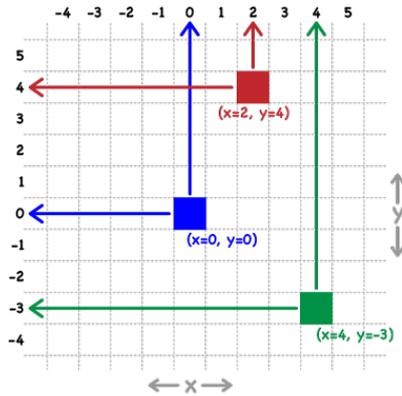
As mentioned in the above figure, the horizontal line (across the page) is called x – axis and the vertical line (up the page) is called y – axis.

Together x and y axes are called coordinate axes. The plane containing the coordinate axes is called Cartesian plane or coordinate plane. The point where the two lines intersect is called origin. Each of these axes represents a number line.

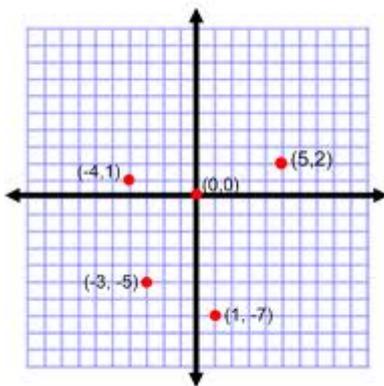


The coordinate axes divide the coordinate plane into four quadrants. They are named as I quadrant, II quadrant, III quadrant and IV quadrant as shown in the figure.

## LOCATING POINT IN A COORDIANTE PLANE



As discussed above, each axis represents a number line. So the distances on the right of O (origin) along the x – axis are taken as positive and on the left of O along x – axis are taken as negative. Similarly, if we move upwards from O, the distances are taken as positive and negative if we move downwards from O.



Consider the figure here. Locate the point P or in other words find the coordinates of the point P. We start from the origin and move along the x – axis until we reach just below P. In this case we move +4 units. Now we go upwards to a distance of +2 units to reach P. We say P is the point with coordinates (4, 2). 4 is the x – coordinate of P and 2 is the y – coordinate of P. x – coordinate is also called abscissa and the y – coordinate is called ordinate.

### Points to remember :

- In the I quadrant, both coordinates are positive.
- In the II quadrant, x – coordinate is negative and y – coordinate is positive.
- In the III quadrant, both coordinates are negative.
- In the IV quadrant, x – coordinate is positive and y – coordinate is negative.

## PLOTTING OF POINTS IN A CARTESIAN PLANE

To find the position of a point in a Cartesian plane is called plotting of a point. Let us understand this by taking example: Let us plot the points P (5, 2), Q (-4, 1), R (-3, -5), S (1, -7).

First of all draw two mutually perpendicular lines on the graph paper. Let them intersect at O, the origin.

To plot P (5, 2), we start from O and move 5 units along x – axis to the right of O and reach the point marked 5. Then we move 2 units above x – axis. Make a point at that place and write P (5, 2).

To plot Q (-4, 1), we start from O and move 4 units along x – axis to the left of O and reach the point marked -4. From there we move 1 unit above x – axis. Mark a point at that place and write Q (-4, 1).

To plot R (-3, -5), we move 3 units to the left of O on the x – axis and reach the point marked -3. Then we move 5 units below x – axis. Mark a point at that place and write (-3, -5).

To plot S (1, -7), we move 1 unit along x – axis to the right of O to reach the point marked as 1 and then from there we move 7 units below x – axis. Mark a point there and write S (1, -7).

Now try it yourself! Should you still need any help, [click here](#) to schedule live online session with e Tutor!

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### Reference Links :

- <http://www.thefreedictionary.com/x-axis>
- <http://www.thefreedictionary.com/y-axis>
- <http://www.thefreedictionary.com/Cartesian+plane>
- [http://en.wikipedia.org/wiki/Origin\\_\(mathematics\)](http://en.wikipedia.org/wiki/Origin_(mathematics))
- [http://en.wikipedia.org/wiki/Number\\_line](http://en.wikipedia.org/wiki/Number_line)
- [http://wiki.answers.com/Q/What\\_are\\_quadrants\\_of\\_a\\_graph](http://wiki.answers.com/Q/What_are_quadrants_of_a_graph)
- <http://en.wikipedia.org/wiki/Abscissa>

- <http://en.wikipedia.org/wiki/Ordinate>

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