MATHS

NCERT - NCERT MATHEMATICS(HINGLISH)

COORDINATE GEOMETRY

Exercise 3 3

1. In which quadrant or on which axis do each of the points $(2, \ 4), \ (3, \ 1), \ (1, \ 0), (1, 2) \ and \ (3, 5)$ lie? Verify your answer by locating them on the Cartesian plane.

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2. Plot the points given in the following table on the plane, choosing suitable units of distance on the axes.

| x	-2	-1	0	1	3
y	8	7	-1.25	3	-1

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Solved Examples

1. See Fig. 3.11 and complete the following statements:(i)   The abscissa and the ordinate of the point B are _and _ Hence, the coordinates of B are (__,__).(ii)   The x–coordinate and the y–coordinate of the point M are _ and _ respectively. Hence,   the coordinates of M are (__,__).(iii)   The x–coordinate and the y–coordinate of the point L are _ and _ respectively. Hence,   the coordinates of L are (__,__).(iv)   The .r–coordinate and the y–

coordinate of the point S are _ and _ respectively. Hence,   the

coordinates of S are (_,_).

2. Write the coordinates of the points marked on the axes in Fig. 3.12.
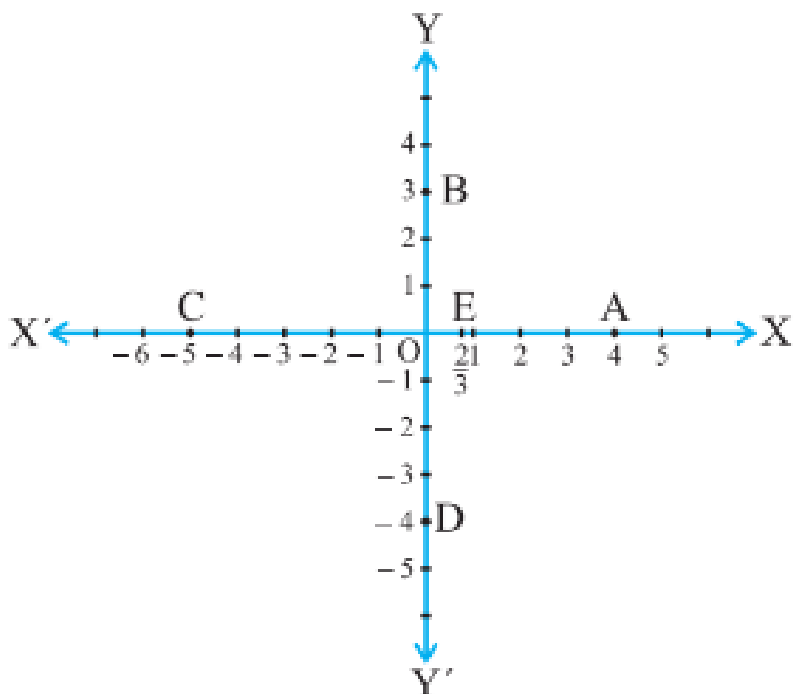
3. Locate the points

$(5, 0), (0, 5), (2, 5), (5, 2), (-3., 5), (-3, -5), (5, -3) and (6, 1)$

in the Cartesian plane.

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4. Plot the following ordered pairs of number (x, y) as points in

the Cartesian plane. Use the scale $1cm = 1unit$ on the axes.

$$\begin{cases} x & -3 & 0 & -1 & 4 & 2 \\ y & 7 & -3.5 & -3 & 4 & -3 \end{cases}$$

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Exercise 3 1

1. (Street Plan): A city has two main roads which cross each other at

the centre of the city. These two roads are along the North–South

direction and East–West direction. All the other streets of the city run parallel to these roads and are 200 m apart. There are about 5 streets in each direction. Using 1 cm = 200 m, draw a model of the city on your notebook. Represent the roads/streets by single lines. There are many cross– streets in your model. A particular cross–street is made by two streets, one running in the North – South direction and another in the East – West direction. Each cross street is referred to in the following maimer : If the 2nd street running in the North – South direction and 5th in the East – West direction meet at some crossing, then we will call this cross–street (2. 5). Using this convention, find:(i)   how many cross – streets can be referred to as (4, 3).(ii)   how many cross – streets can be referred to as (3, 4).

2. How will you describe the position of a table lamp on your study table to another person?

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Exercise 3 2

1. See Fig.3.14. and write the following:(i) The coordinates of B.(ii) The coordinates of C.(iii) The point identified by the coordinates $(3, 5)$.(iv) The point identified by the coordinates $(2, 4)$. (v) The abscissa of the point D. (vi) The ordinate of the points H. (vii) The coordinates of the points L. (viii) The coordinates of the point M.

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2. Write the answer of each of the following questions:(i) What is the name of horizontal and the vertical lines drawn to determine the   position of any point in the Cartesian plane? (ii)   What is the name of each part of the plane formed by these two lines?(iii)   Write the name of the point where these two lines intersect.