COORDINATE GEOMETRY

BY
MANISHA TIWARI
TGT(SS) MATHS
A.E.C.S .3 RAWATBHATA

LEARNING OBJECTIVES

- Ordered Pair
- Cartesian System
- Problem and Solution
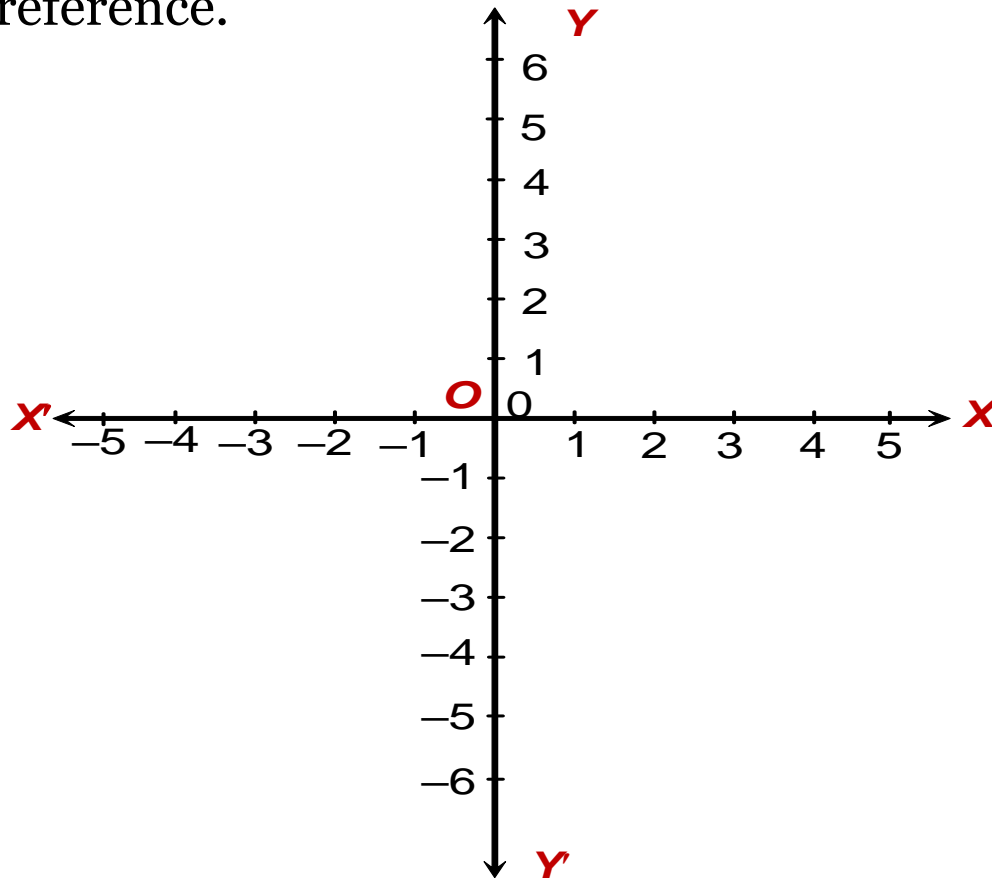
CONCEPTS COVERED

Ordered Pair

A pair of real numbers p and q listed in a specific order with 'p' at the first place and 'q' at the second place is called an ordered pair and written as (p, q). This ordered pair is also known as coordinates of a point in space.
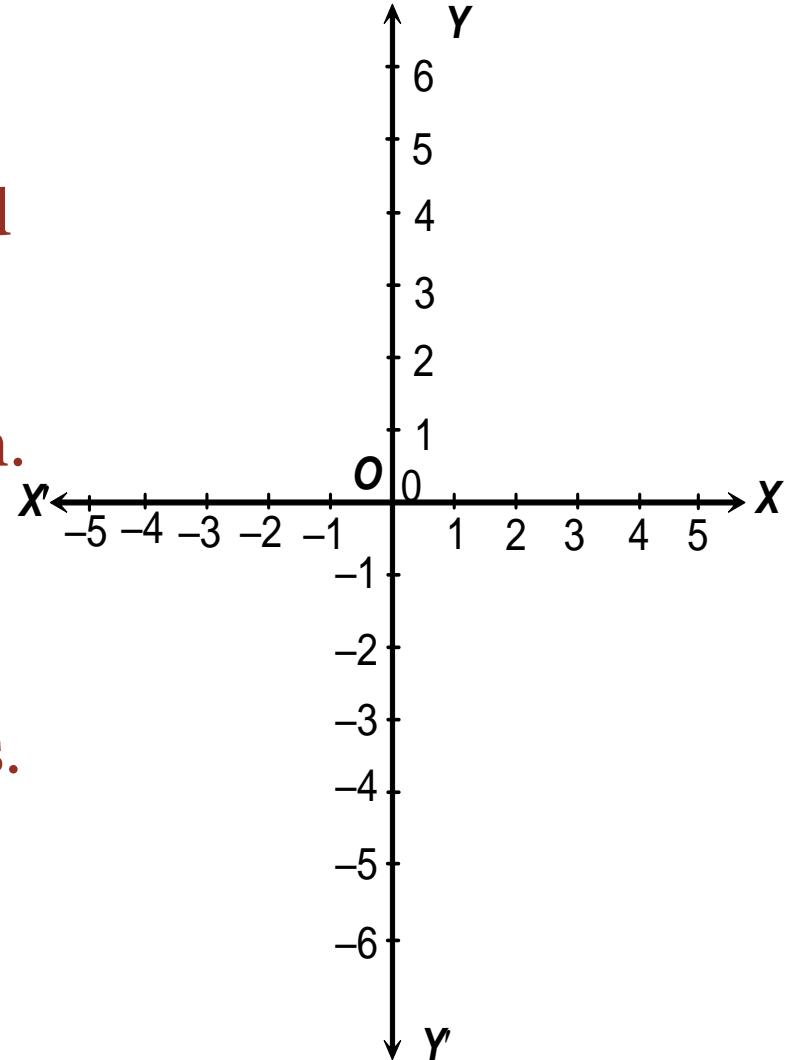
(p, q) and (q, p) represent two different points.

Coordinate axes

Draw two straight lines **_XOX′_** and **_YOY′_** intersecting at right angles at the point O. These lines are called coordinate axes or axes of reference.

- The horizontal line **XOX′** is called x-axis.

- The vertical line **YOY′** is called y-axis.

- The point **O** is called the origin.

- **OX** represents positive x-axis.

- **OX′** represents negative x-axis.

- **OY** represents positive y-axis.

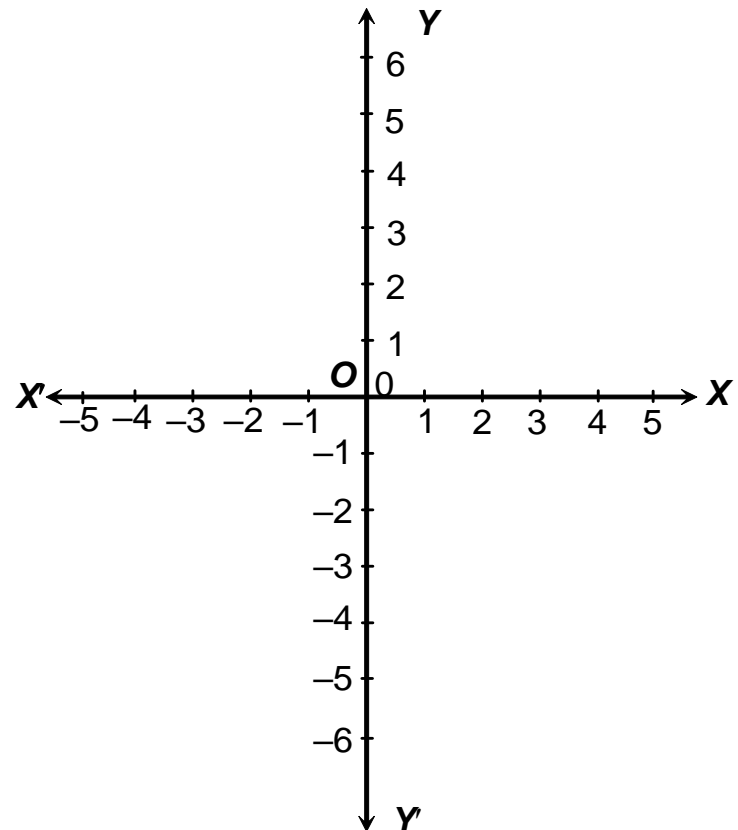- **OY′** represents negative y-axis.

QUADRANTS

The coordinate axes XOX' and YOY' divide the plane of paper into 4 regions.

XOY -   First Quadrant

YOX' -   Second Quadrant

$X'OY'$ -   Third Quadrant

$Y'OX$ -   Fourth Quadrant

Abscissa and Ordinate

▪ ABSCISSA

The distance measured **along x-axis** is called *x*-coordinate or abscissa.
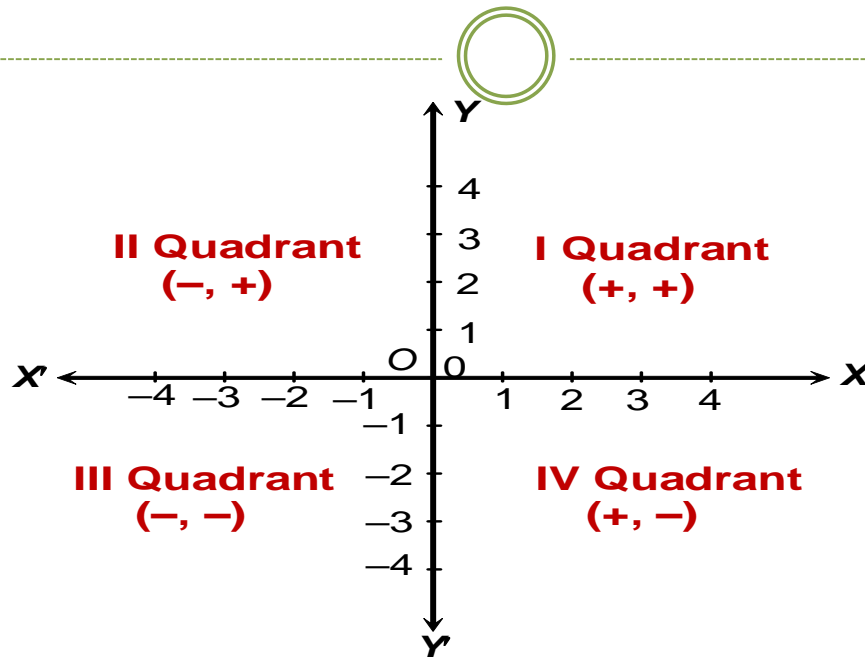
Generally it is represented by *x*.

▪ ORDINATE

The distance measured **along *y*-axis** is called *y*-coordinate or ordinate
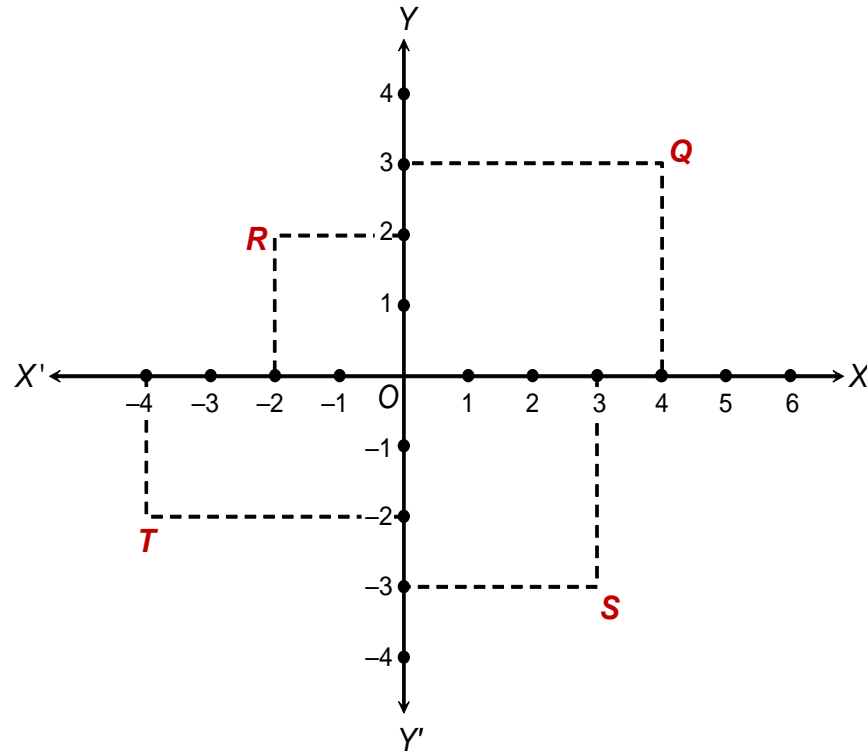
Generally it is represented by *y*.

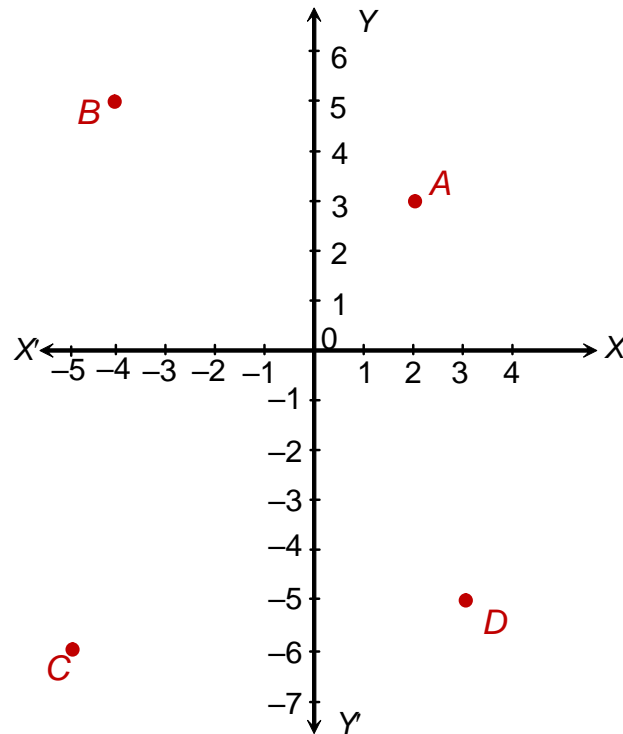**In ordered pair *(x,y)*, *x* is abscissa and *y* is ordinate.**

SIGN CONVENTIONS

Region	Quadrant	x-coordinate	y-coordinate	Point
XOY	I	+	+	(+, +)
YOX'	II	−	+	(−, +)
X'OY'	III	−	−	(−,−)
Y'OX	IV	+	−	(+,−)

Question : See the figure below and fill in the blanks

(i) The abscissa and ordinate of point Q are _____ and _____ respectively.

(ii) The y coordinate and x coordinate of point T are _____ and _____ respectively.

(iii) The coordinates of point S are (_____, _____).

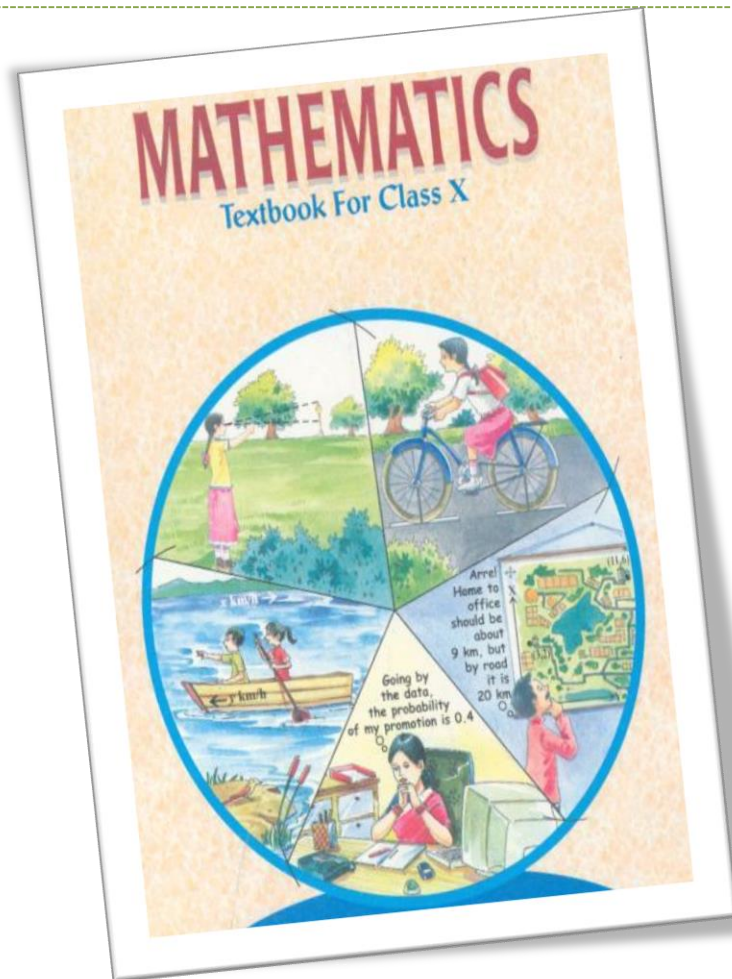(iv) $(-2, 2)$ are coordinates of point _____.

Question : Write down the coordinates of the following points A, B, C and D marked on the graph as shown in figure.
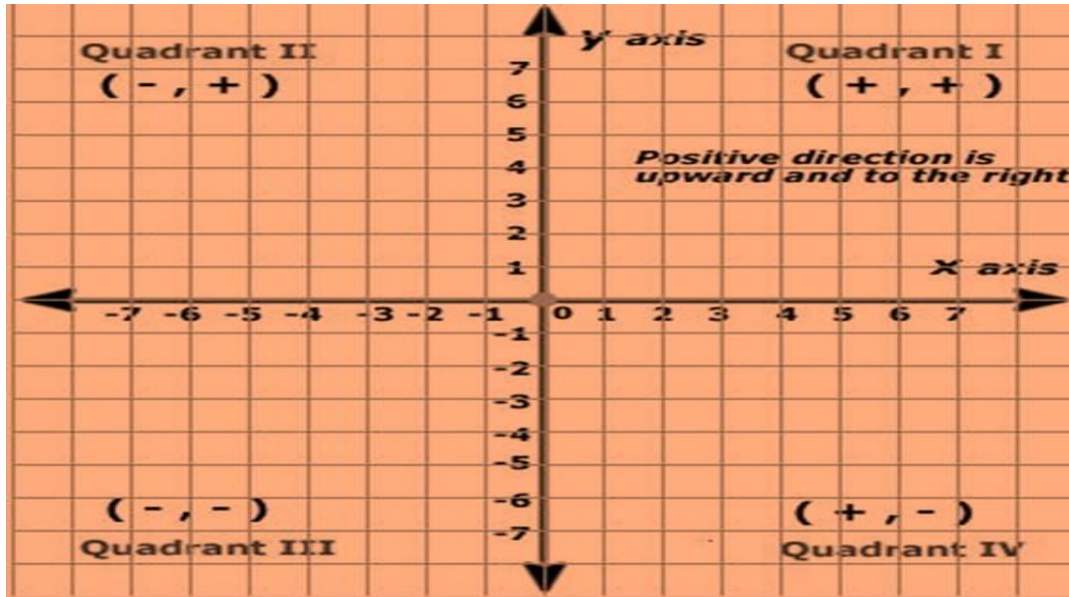
RESOURCES USED

1. NCERT Book
2. NCERT Exemplar
3. Reference Books

SKILL GENERATED

1. Definitions of Ordered pair and various related terms,

2. Nomenclatures used in Co-ordinate Geometry.

Thank You !