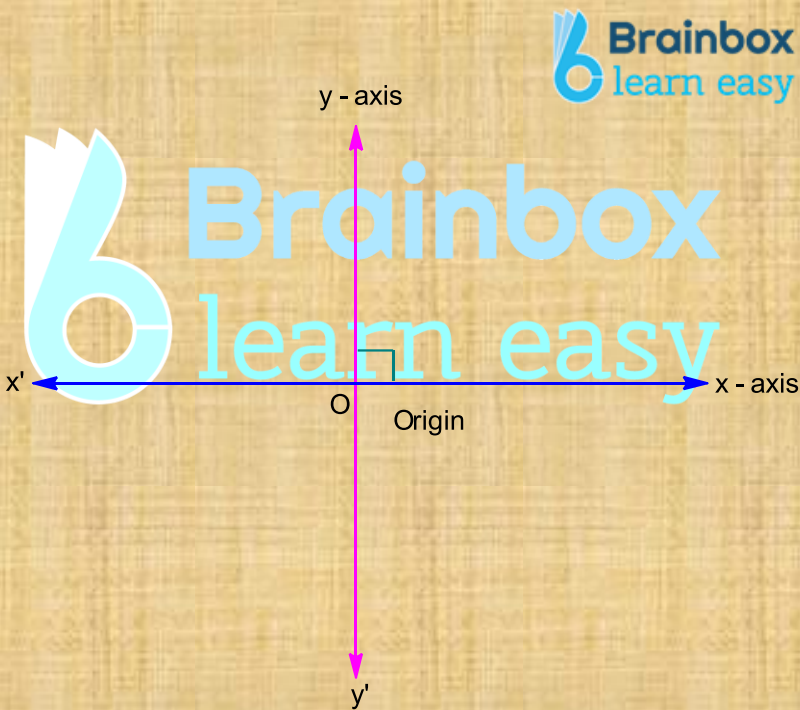
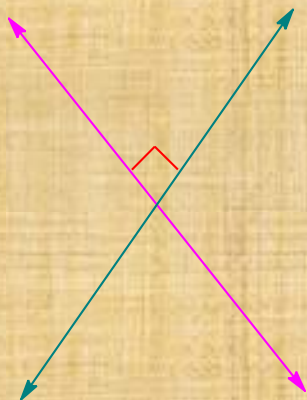


# Introduction to Graphs

## Cartesian Plane:

- (1) Draw the two mutually perpendicular number lines in a plane, which meet at 'O'.





- (2) The horizontal line  $XOX'$  is called the “X –axis”.
- (3) The vertical line  $YOY'$  is called the “Y –axis”.
- (4) The X – axis and Y –axis are together called the “Co-ordinate axes”.
- (5) The point of intersection of Co-ordinate axes is called the “Origin”.
- (6) The plane consisting of two perpendicular number lines that intersect at a point is called “Cartesian plane (or) Cartesian Co-ordinate (or) Rectangular Cartesian plane”.

In Diagram:

- (i)  $XOY$  – Plane      (ii)  $X'OY$  – Plane,  $X'OY'$  - Plane
- (iii)  $XOY'$  - Plane

### Sign convention in Cartesian Plane:

Since the axes are number lines the same convention of numbering is followed.

- (i) Horizontal distances measured in the direction of  $OX$  are positive.
- (ii) The horizontal distances measured in the direction of  $OX'$  are negative.
- (iii) The vertical distances measured in the direction of  $OY$  are positive.

(iv) The vertical distances measured in the direction of  $OY'$  are negative.

