

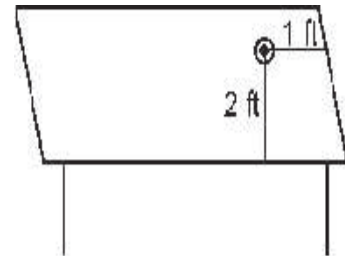
## 3

## COORDINATE GEOMETRY

## EXERCISE 3.1

**Q.1.** How will you describe the position of a table lamp on your study table to another person?

**Sol.** The table lamp is 2 feet from the seating side of the desk and 1 feet from its right edge. so, we can write the position of lamp as (2, 1). **Ans.**

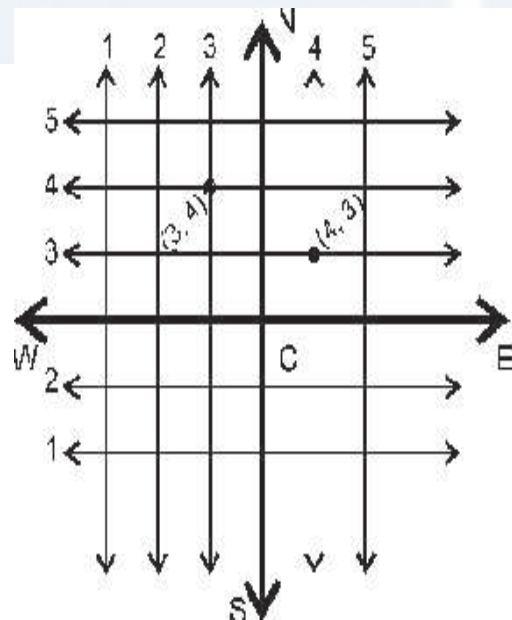


**Q.2. (Street Plan) :** A city has two main roads which cross each other at the centre of the city. These two roads are along the North-South direction and East-West direction. All the other streets of the city run parallel to these roads and are 200 m apart. There are about 5 streets in each direction. 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 manner : 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:

- how many cross-streets can be referred to as (4,3).
- how many cross-streets can be referred to as (3, 4).

**Sol.** Only one cross-street can be referred to as (4, 3). A different cross-street can be referred to as (3, 4). There is only one such cross-street. **Ans.**



## 3

## COORDINATE GEOMETRY

## EXERCISE 3.2

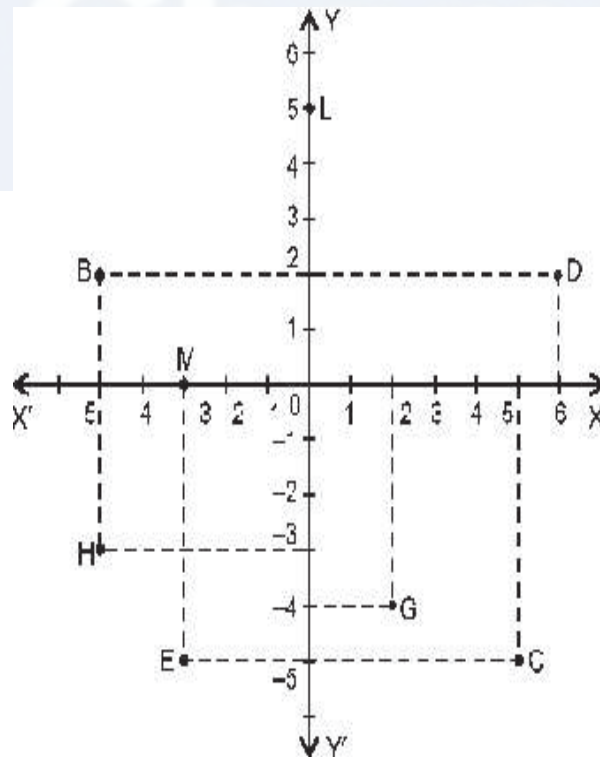
**Q.1.** Write the answer of each of the following questions :

- (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.

**Sol.** (i) x-axis and y-axis (ii) Quadrants (iii) Origin

**Q.2.** See Fig. 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 point H.
- (vii) The coordinates of the point L.
- (viii) The coordinates of the point M.



**Sol.** (i)  $(-5, 2)$  (ii)  $(5, -5)$   
 (iii) E (iv) G  
 (v) 6 (vi)  $-3$   
 (vii)  $(0, 5)$  (viii)  $(-3, 0)$

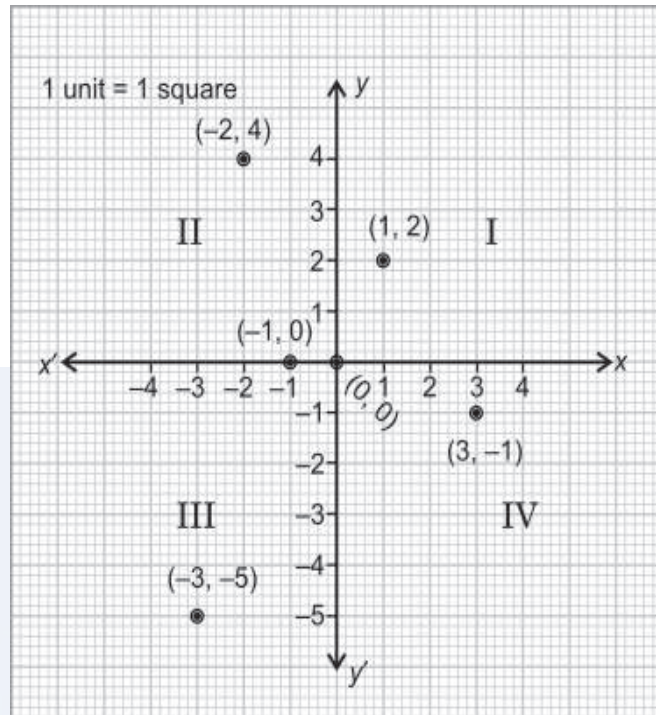
## 3

## COORDINATE GEOMETRY

## EXERCISE 3.3

**Q.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.

**Sol.**  $(-2, 4)$  : 2nd quadrant  
 $(3, -1)$  : 4th quadrant  
 $(-1, 0)$  :  $x$ -axis  
 $(1, 2)$  : 1st quadrant  
 $(-3, -5)$  : 3rd quadrant



**Q.2.** Plot the points  $(x, y)$  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 |

**Sol.**

