Exercise 3.1 Page: 53

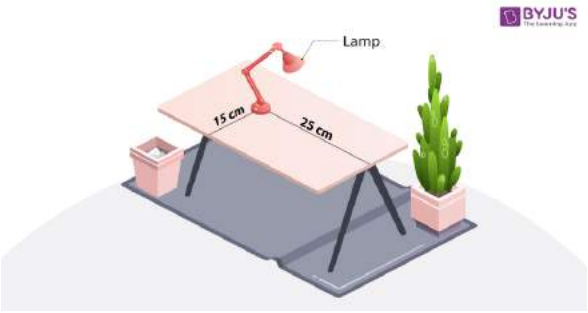
1. How will you describe the position of a table lamp on your study table to another person?

Solution:

For describing the position of table lamp on the study table, we take two lines, a perpendicular and a horizontal line. Considering the table as a plane(x and y axis) and taking perpendicular line as Y axis and horizontal as X axis respectively. Take one corner of table as origin where both X and Y axes intersect each other. Now, the length of table is Y axis and breadth is X axis. From The origin, join the line to the table lamp and mark a point. The distances of the point from both X and Y axes should be calculated and then should be written in terms of coordinates.

The distance of the point from X- axis and Y- axis is x and y respectively, so the table lamp will be in (x, y) coordinate.

Here, (x, y) = (15, 25)



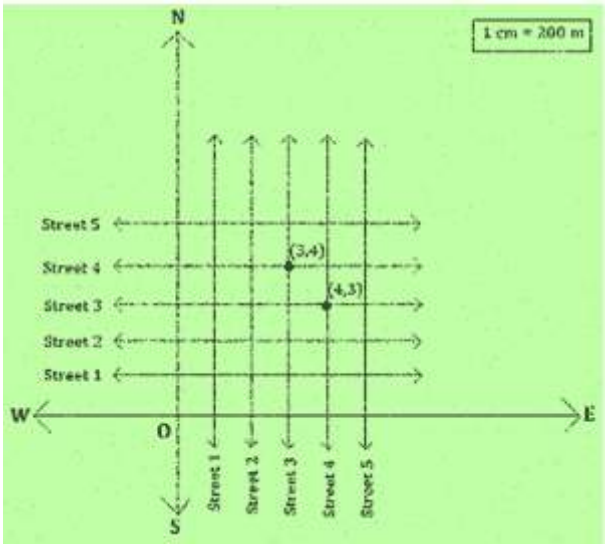
2. (Street Plan): A city has two main roads which cross each other at the centre of the city. These two roads are along the North-South direction and East-West direction. All the other streets of the city run parallel to these roads and are 200 m apart. There are 5 streets in each direction. Using 1cm = 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:

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

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

Solution:



(i) Only one street can be referred to as (4,3) (as clear from the figure).

(ii) Only one street can be referred to as (3,4) (as we see from the figure).