Brainbox learn easy

CHAPTER 15

Introduction to Graphs

Construction of graphs:

Procedure with example:

(i) Identify independent and dependent variables from the given information.

(ii) Consider some arbitrary values for ‘x’ (Preferably some positive and some negative values).

(iii) Draw a table of values of ‘x’ and the corresponding values of ‘y’.

(iv) Form ordered pairs of the values of ‘x’ and ‘y’ from the table.

(v) On a graph sheet, draw the coordinates axes and mark their point of intersection as ‘O’.

(vi) Label the independent variable along OX and dependent variable along OY mark numbers according to the values of ‘x’ and ‘y’ from the table using a suitable scale.

(vii) Plot each ordered pair and join the plotted points to get the desired graph.

Example:

Draw a linear graph of y = 2x.

Step 1:

The given equation is y = 2x. Clearly, the variable ‘x’ is independent and the variable ‘y’ is dependent.

Step 2:

x = -1, -2, 0, 2, 3

Step 3:

x	-1	-2	0	2	3
y	-2	-4	0	4	6

Step 4:

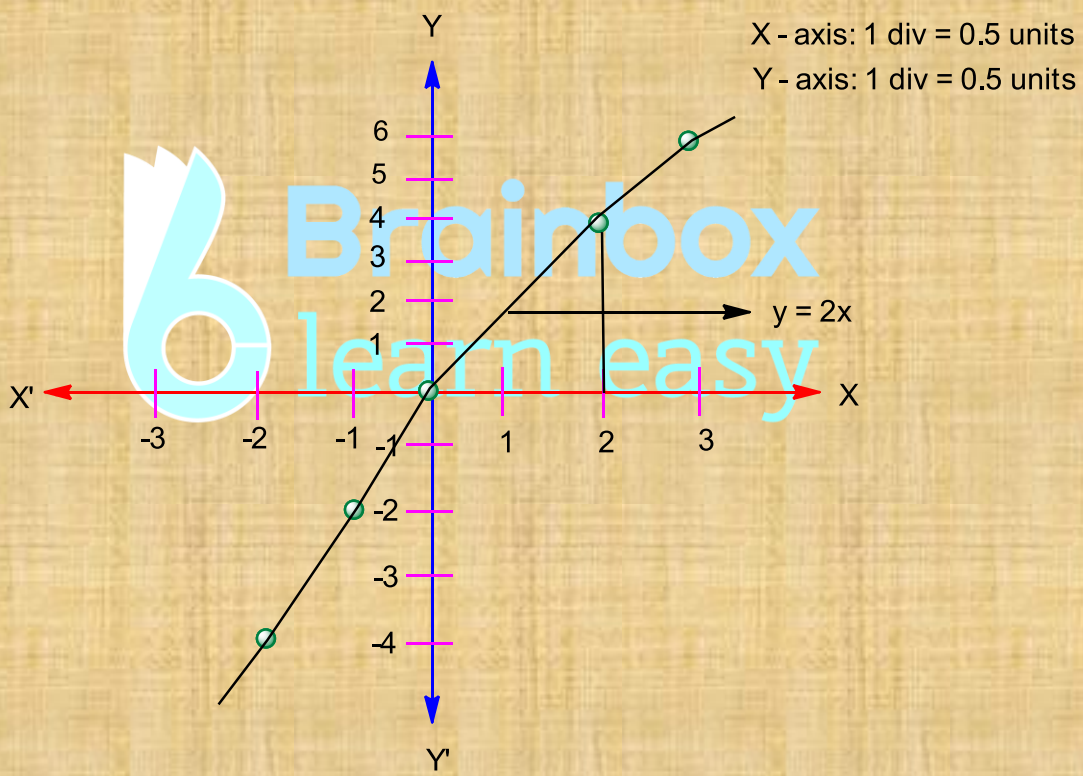
The ordered pair are (-1, -2), (-2, -4), (0, 0), (2, 4) and (3, 6).

Step 5:

Step 6:

Step 7:

Step 8:



∴ The graph in the figure is the required “Linear graph”.

Ex.

The rainfall recorded in 2 cities in a 6 – month period is represented by the given graph. The dotted line indicates rainfall in city ‘A’ while the solid line indicated the rainfall in city ‘B’. Study the graph and answer the following questions.

(I) What data is represented on the two axes?

(II) Which city had higher rainfall in November?

(III) Which 3 months have the same rainfall for city B?

(IV) Which was the wettest month?

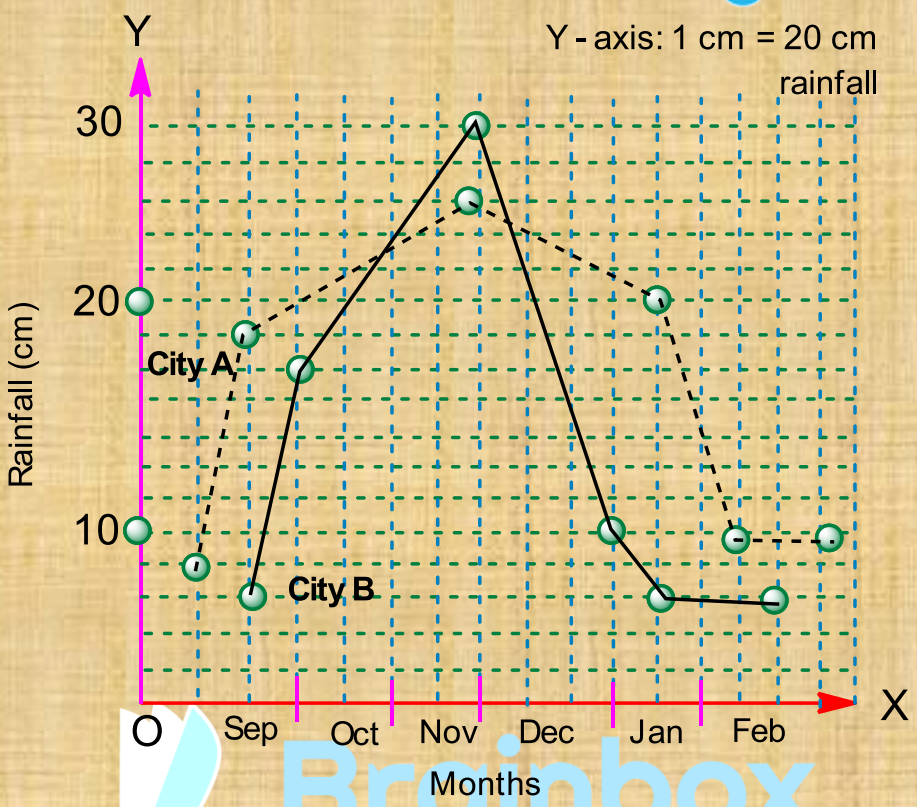
Sol.

(I) Months are represented on the X – axis and rainfall in cm is represented on the Y – axis.

(II) City B had higher rainfall in November.

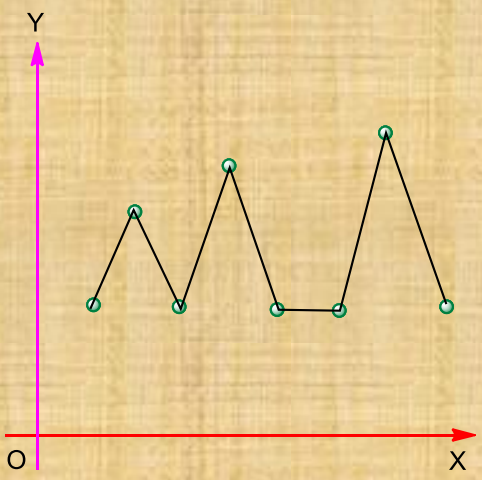
(III) September, January and February have the same rainfall for city’B’.

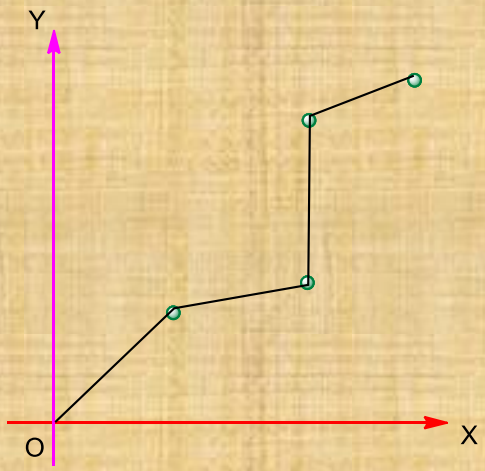
(IV) November was the wettest month as there was the maximum rainfall.



Difference between line graph and linear graph:

Line graph





Linear graph