ODM EDUCATIONAL GROUP
Changing your Tomorrow

PERIOD 3

MATHEMATICS

CHAPTER NUMBER :~ 3
CHAPTER NAME :~ COORDINATE GEOMETRY
SUB TOPIC :~ PLOTTING POINTS IN THE CARTESIAN PLANE WHEN POINTS ARE GIVEN

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PREVIOUS KNOWLEDGE TEST

1. Explain the key words of Cartesian system-

(a) origin

(b) quadrant

2. A point lies on x-axis at a distance of 9 units from y-axis . What are its co-ordinates ? What will be it's coordinate if it lies on y-axis at a distance of —9units from x-axis ?

LEARNING OUTCOME:-

Students will learn to

Plot points in the Cartesian Plane when coordinates are given.

https://www.youtube.com/watch?v=s7NKLWXkEEE

"Coordinate geometry is the branch of mathematics which is a fusion of algebra and geometry. In the honour of Descartes, the subject is called cartesian geometry…."

~ *Rene Descartes …*

Different Examples Of Plotting Points On Cartesian Plane-

(0,0); (1,4); (9,0); (0,9); (–5,9); (–2,–9)

Evaluation:-

Locate the points

(2,–3); (3,2); (2,2); (0,2); (2,0) on the Cartesian plane.

HOMEWORK:-

EXERCISE – 3.3

Question 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.

Solution:

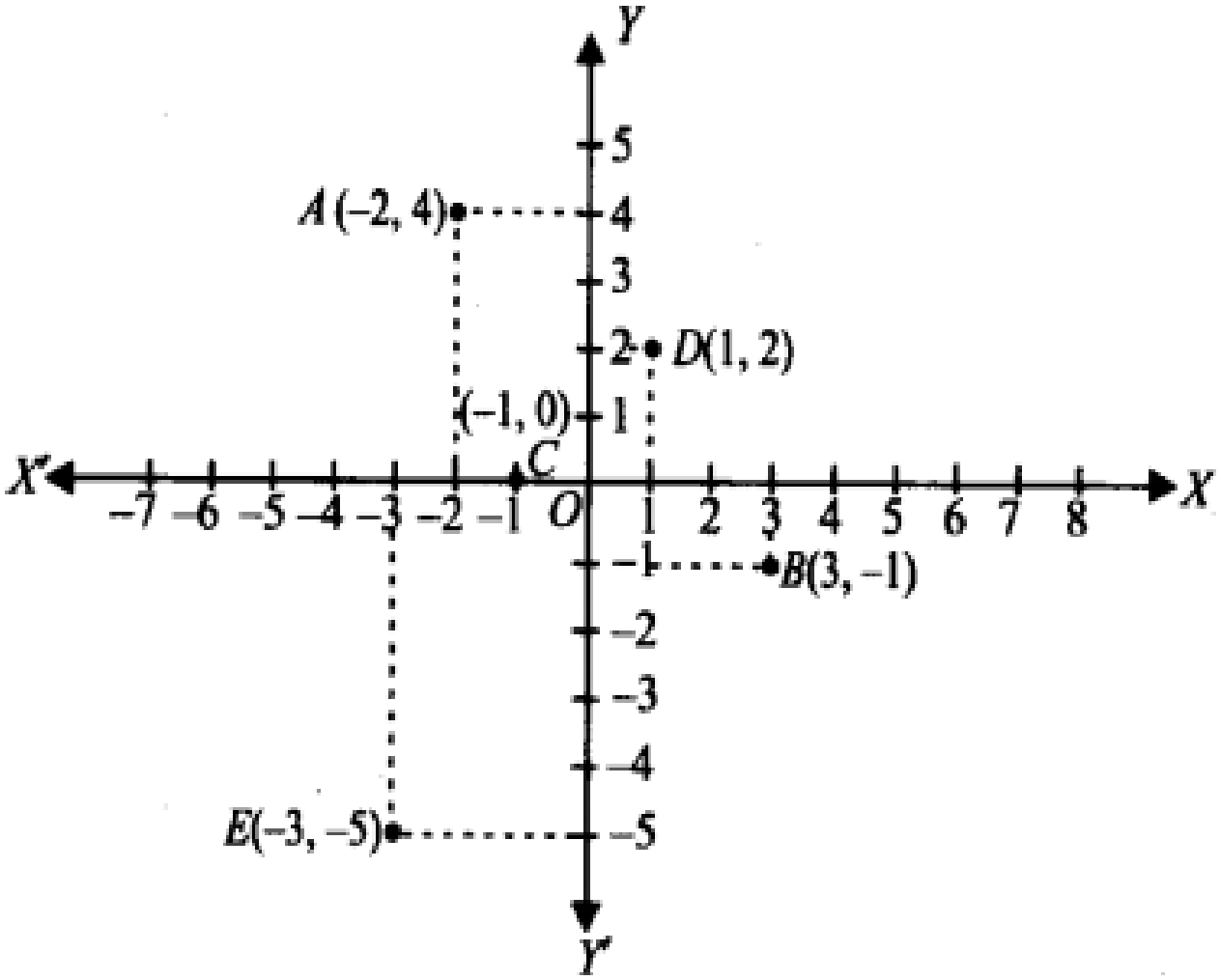
The point (-2, 4) is having negative abscissa and positive ordinate.
∴ (-2,4) lies in the 2^{nd} quadrant.
The point (3, -1) is having positive abscissa and negative ordinate.
∴ (3, -1) lies in the 4^{th} quadrant.

The point (-1, 0) is having negative abscissa and zero ordinate.
∴ The point (-1, 0) lies on the negative x-axis.

The point (1, 2) is having the abscissa as well as ordinate positive.
∴ Point (1,2) lies in the 1st quadrant.

The point (-3, -5) is having the abscissa as well as ordinate negative.
∴ Point (-3, -5) lies in the 3rd quadrant.

These points are plotted in the Cartesian plane as shown in the following figure as A(-2, 4); B(3, -1); C(-l, 0); D(l, 2) and E (-3, -5).



Question 2

Plot the points (x, y) given in the following table on the plane, choosing suitable units of distance on the axis.

x	−2	−1	0	1	3
y	8	7	−1.25	3	−1

Solution:

The given points are (-2, 8), (-1, 7), (0, -1.25), (1,3) and (3, -1).
To plot these points:

(i) We draw X'OX and YOY' as axes.

(ii) We choose suitable units of distance on the axes.

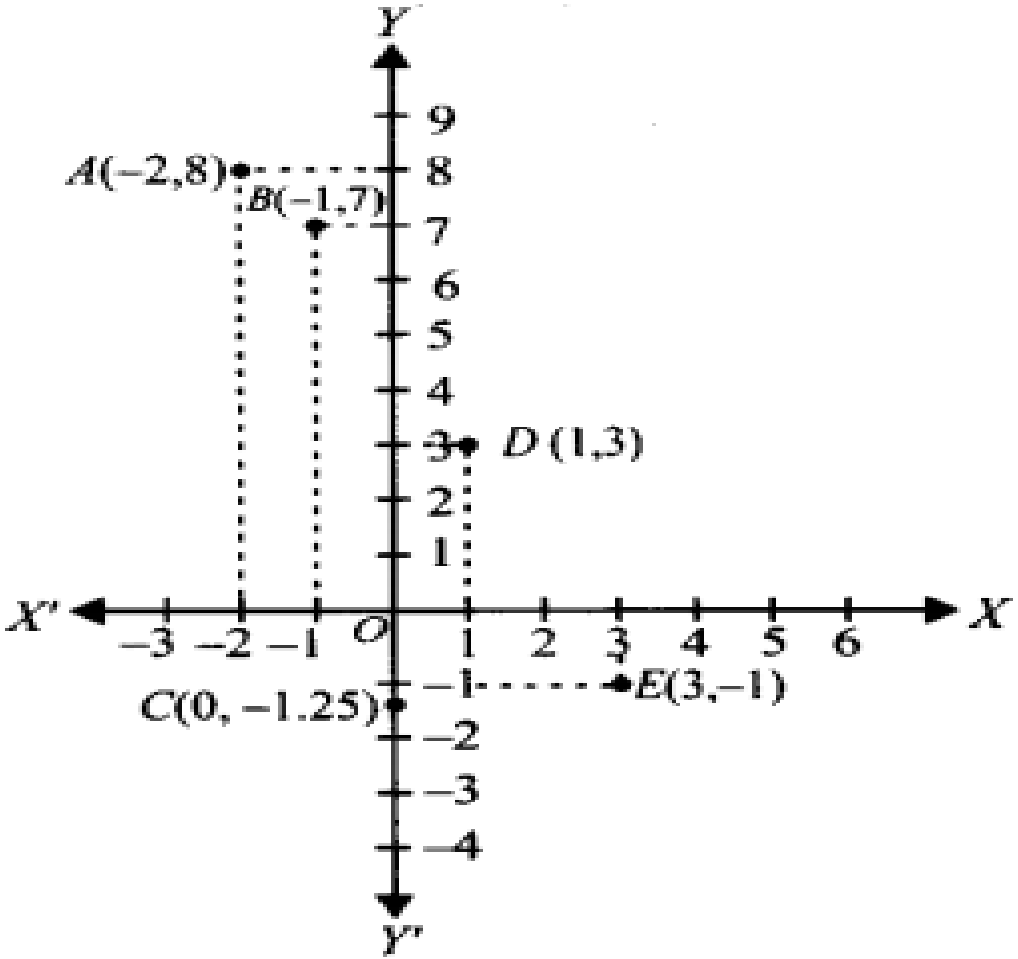
(iii) To plot (-2,8), we start from O, take (-2) units on x-axis and then (+8) units on y – axis. We mark the point as A (-2, 8).

(iv) To plot (-1,7), we start from O, take (-1) units on x-axis and then (+7) units on the y – axis. We mark the point as B(-1, 7).

(v) To plot (0, -1.25), we move along 1.25 units below the x-axis on the y – axis and mark the point as C(0, -1.25).

(vi) To plot (1, 3), we take (+1) unit on the x-axis and then (+3) units on the y – axis. We mark the point as D(1, 3).

(vii) To plot (3, -1), we take (+3) units on the x-axis and then (-1) unit on the y – axis. We mark the point E(3, -1).



AHA:~

A) Taking 0.5cm 1unit, plot the following points on the graph paper.

B) Plot the points (x,y) given by the following table. Using scale 1cm = 0.25unit.

THANKING YOU

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