

CHAPTER - 15

INTRODUCTION TO GRAPHS

EXERCISE – 15.2

Question – 1

Plot the following points on a graph sheet. Verify if they lie on a line

A. $A(4, 0)$, $B(4, 2)$, $C(4, 6)$, $D(4, 2.5)$

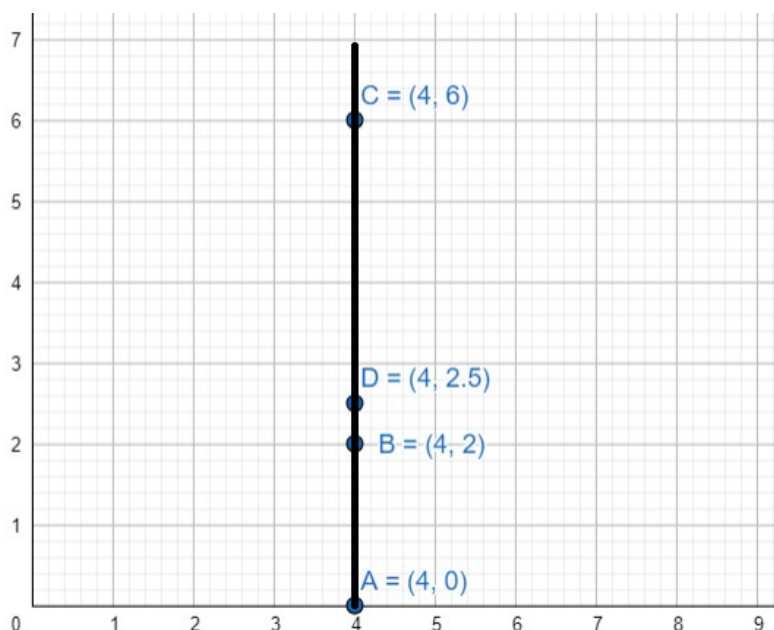
B. $P(1, 1)$, $Q(2, 2)$, $R(3, 3)$, $S(4, 4)$

C. $K(2, 3)$, $L(5, 3)$, $M(5, 5)$, $N(2, 5)$



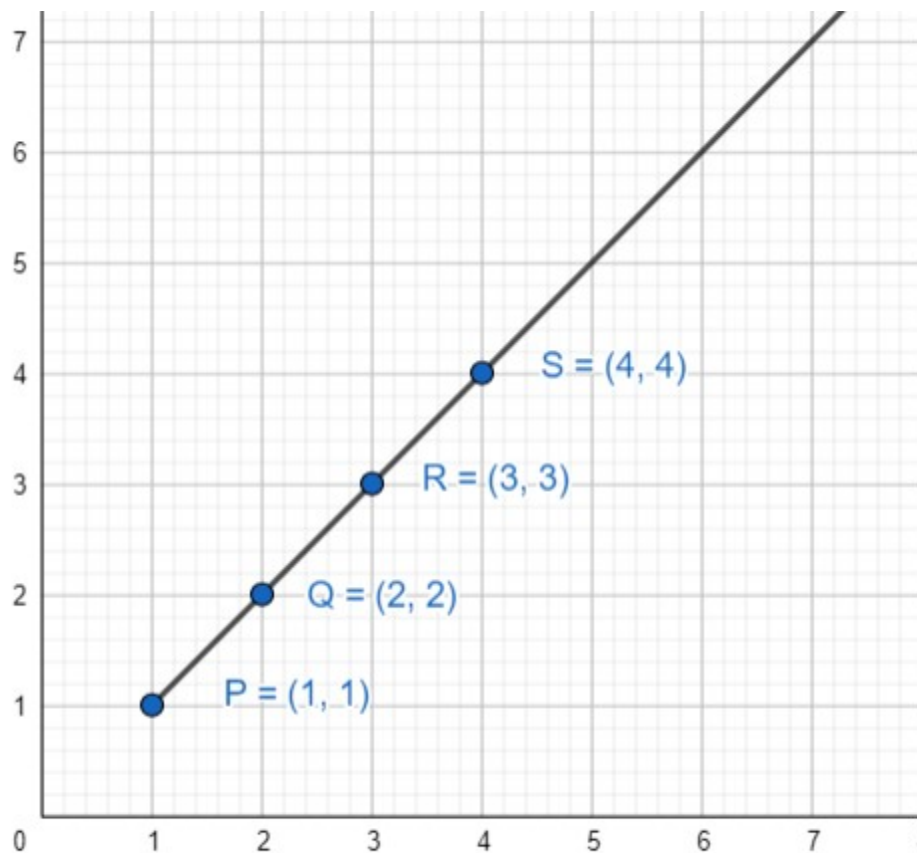
Answer:

a) We can plot the given points and join the consecutive points as follows:



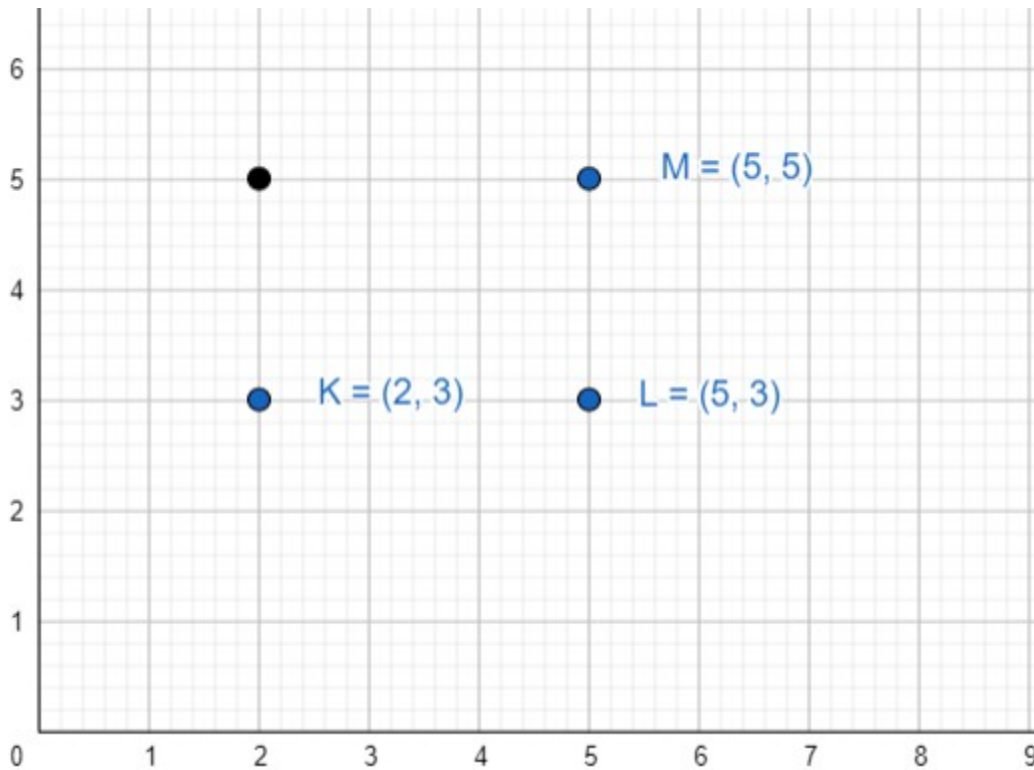
From the graph, we can observe that points A, B, C, and D lie on the same line.

b) We can plot the given points and join the consecutive points as follows:



Therefore, point P, Q, R and S lie on the same line.

c) We can plot the given points and join the consecutive points as follows:

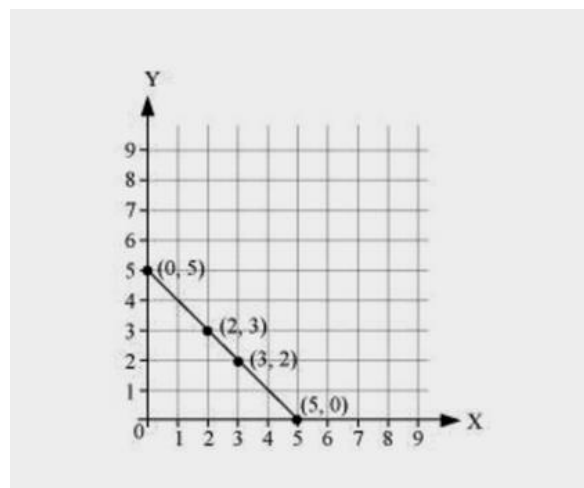


Therefore, points K, L, M and N do not lie on the same line.

Question – 2

Draw the line passing through $(2, 3)$ and $(3, 2)$. Find the coordinates of the points at which this line meets the x-axis and y-axis.

Answer:

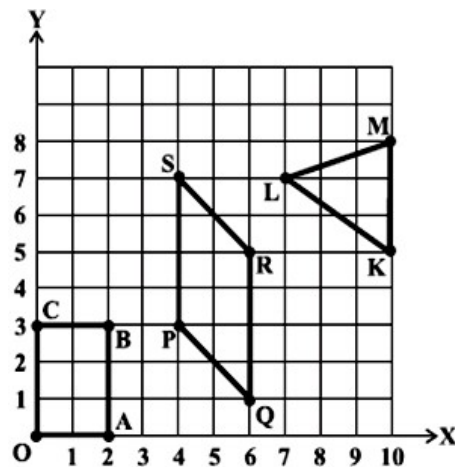


From the graph,

We can observe that the line joining the points (2,3) and (3,2) meets the x-axis at the point (5,0) and the y-axis at the point (0,5)

Question – 3

Write the coordinates of the vertices of each of these adjoining figures.



Answer:

The coordinates of the vertices are:

O (0,0); A (2,0); B (2,3); C (0,3)

P (4,3); Q (6,1); R (6,5); S (4,7)

K (10,5), L (7,7); M (10,8)

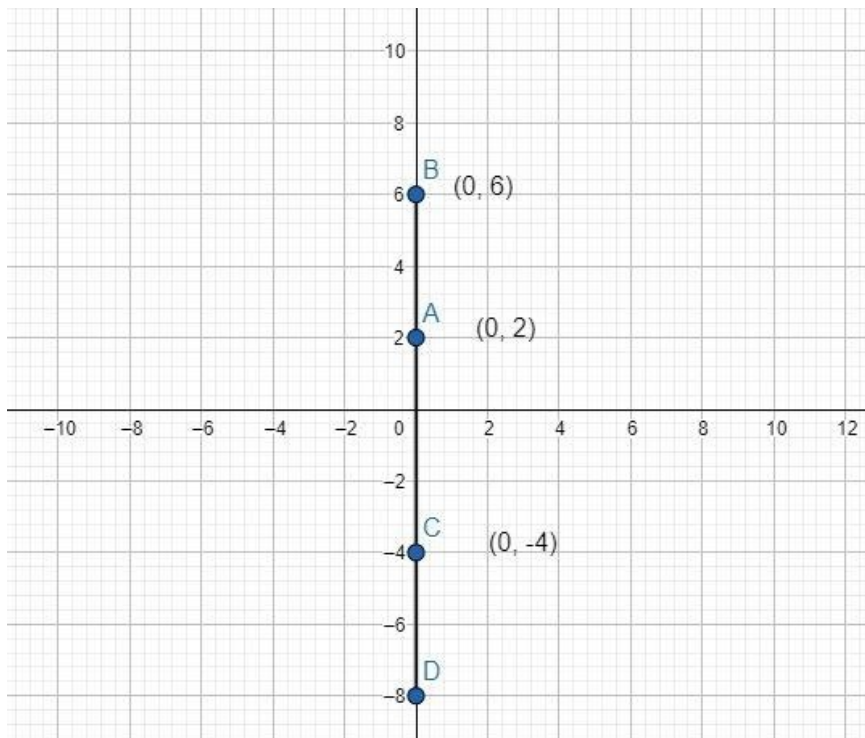
Question – 4

State whether True or False. Correct that are false

- (i) A point whose x coordinate is zero and y-coordinate is non-zero will lie on the y-axis.
- (ii) A point whose y coordinate is zero and x-coordinate is 5 will lie on y-axis.
- (iii) The coordinates of the origin are $(0, 0)$.

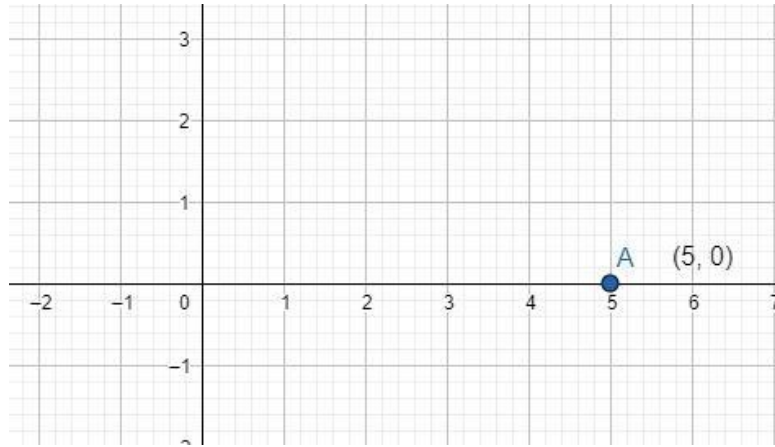
Answer:

i. True



From the graph coordinates of all the four points have x - coordinate = 0, And each point lies on y - axis

ii. False



The point with x-coordinate 5 and y-coordinate 0 will lie on x-axis.

iii. Tru