Assignment 1

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1 Problem 1

Show that the points A (1,2), B (5,4), C (3,8), D (-1,6) are the vertices of a square

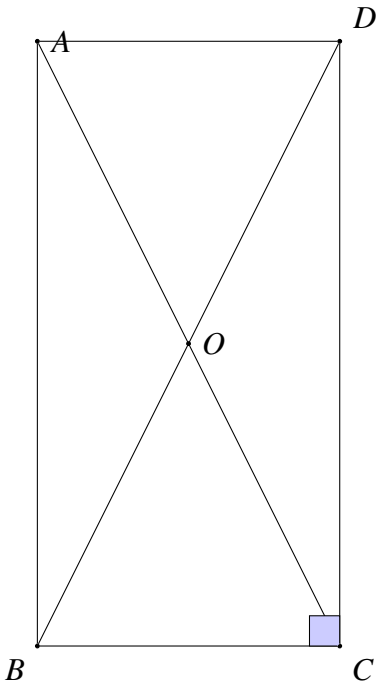
2 Solution

The calculated value of AB, BC, CD and DA is equal to $2\sqrt{5}$ i.e AB=BC=CD=DA Also when we calculate the distance between two digonals AC and BD, It comes $2\sqrt{5}$ i.e AC=BD

So, here we can see distance between all sides and diagonals are equal.

A,B,C and D are the vertices of a square.

□



Answer Image

3 Problem 2

Find the coordinates of the point equidistant from three given points A(5 1), B(-3 -7) and C(7 -1)

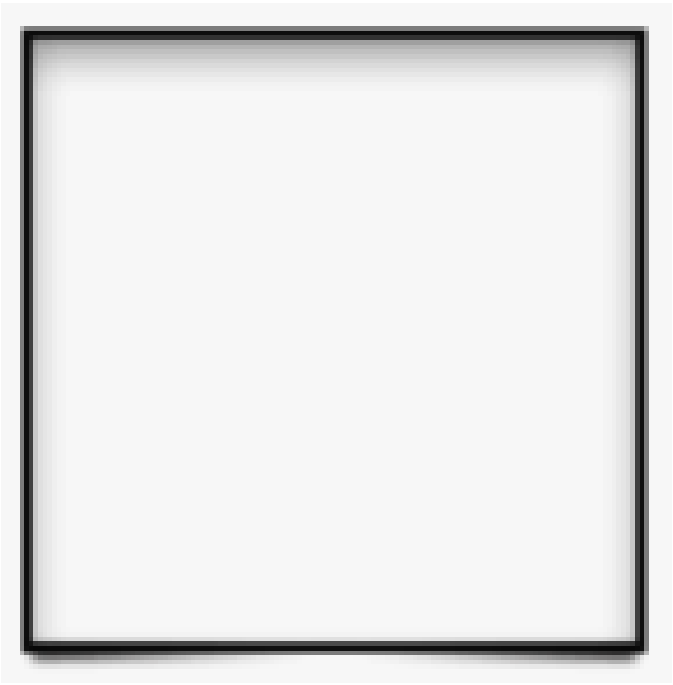


Fig. 0: Answer Image for Q1

4 Solution

Applying the distance formula,

if points are equidistant then the length is same

$P(p,q) \equiv (x1,y1)$ and $A(5,1) \equiv (x2,y2)$

$1 \equiv coordinate P2 \equiv coordinate$Q

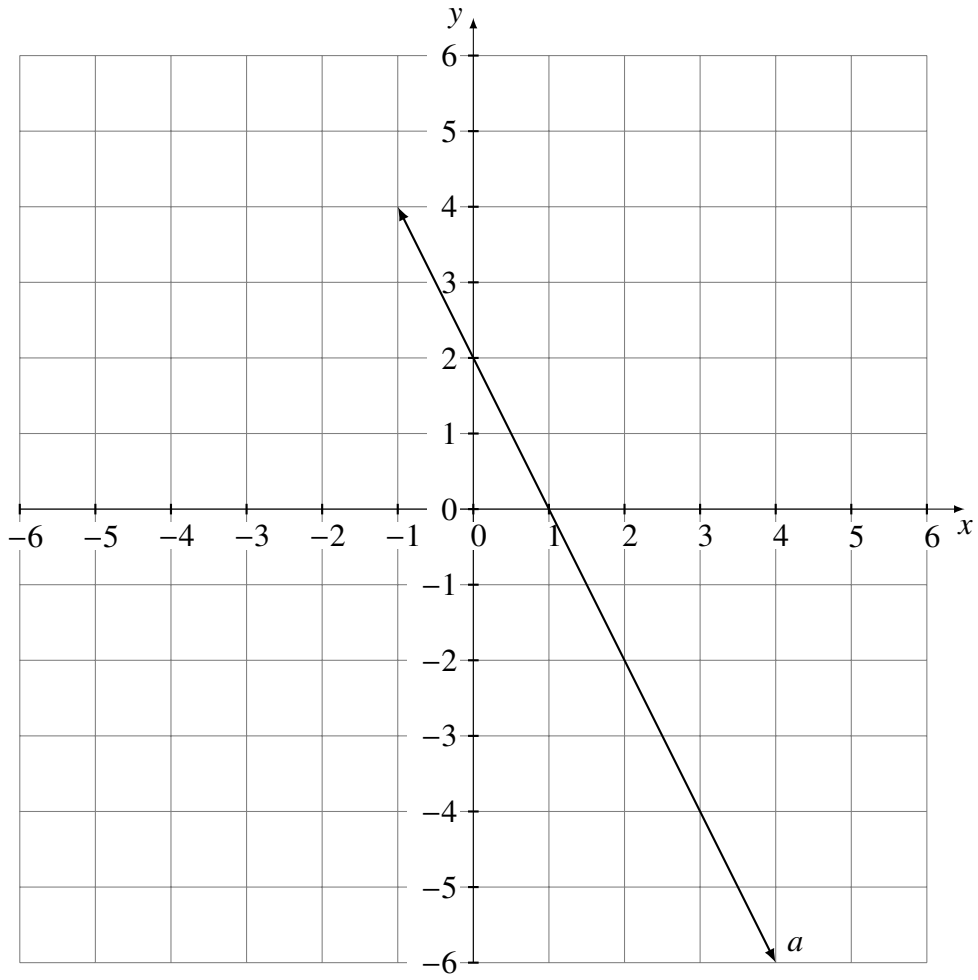
4.0.0P (P,Q)= (1,2)

The co ordinates were found at points (1,2), The same were plotted on the graph for the representation.

The same is represented as follows-

X- coordinate value 1 Y- coordinate value 2

Graphical Output



Thank you!!!