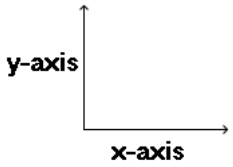
G1

Mathematics
Support Centre

Title: Introduction to Co-ordinates

Target: On completion of this worksheet you should be able to plot points on a graph and read points off a graph.

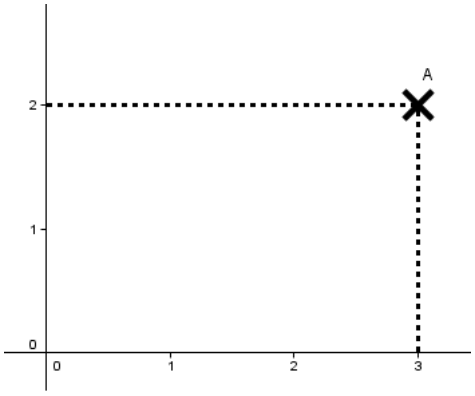
A **graph** is a diagram showing the relationship between two variables. It consists of two axes: the x-axis and the y-axis.



The point where these two axes meet is called the **orgin**.

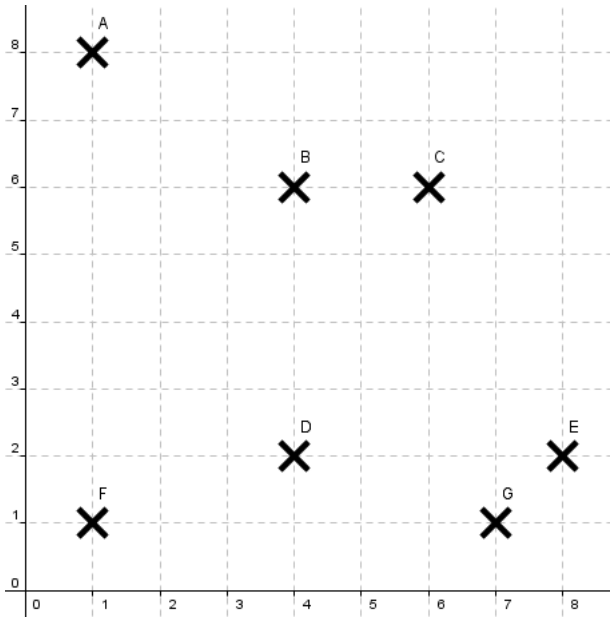
A point on a graph is given a pair of **co-ordinates**: (x,y). The x co-ordinate is awlays given first as x comes before y in the alphabet.

The x co-ordinate is how far the point is along the x-axis and the y co-ordinate is how far the point is along the y-axis.



The x co-ordinate of the point A is 3.
The y co-ordinate of the point A is 2.
The point A has co-ordinates (3,2).

Exercise
Write down the co-ordinates of points A, B, C , D , E , F and G.

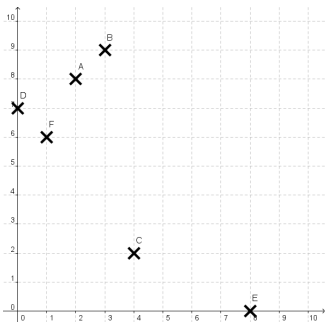


(Answers: A=(1,8), B=(3,6), C=(6,6), D=(4,2), E=(8,2), F=(1,1), G=(7,1))

Exercise
Draw axes from 10 to 10 on squared paper and plot the following plots:

1. A=(2,8) 2. B=(3,9) 3. C=(4,2)
4. D=(0,7) 5. E=(8,0) 6. F=(1,5)

(Answers:



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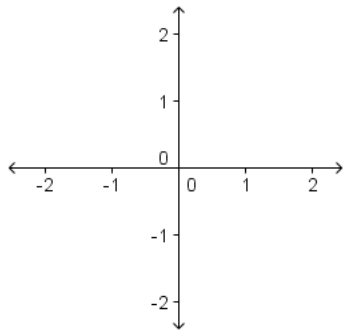
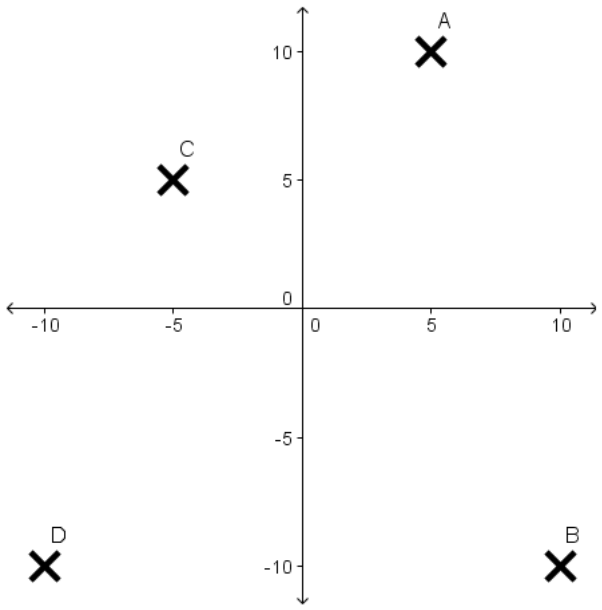
P.T.O.

Often it is necessary to extend the axes in order to allow our variables to take negative values.



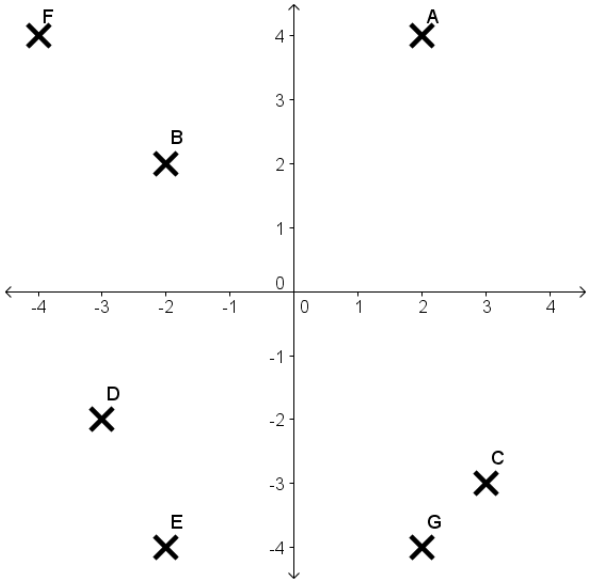
A point on the graph is given co-ordinates in exactly the same way as before.

Example



The point A has co-ordinates (5,10).
The point B has co-ordinates (10,−10).
The point C has co-ordinates (−5,5).
The point D has co-ordinates (−10,−10).

Exercise
Write down the co-ordinates of the points A, B, C, D, E, F and G.

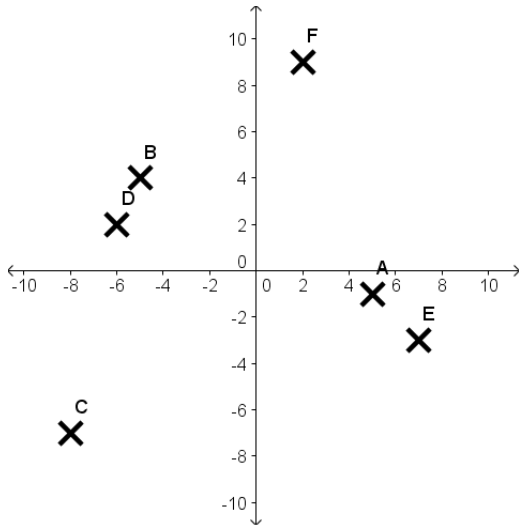


(Answer: A=(2,4), B=(−2,2), C=(3,−3), D=(−3,−2), E=(−2,−4), F=(−4,4), G=(2,−4))

Exercise
Draw axes from 10 to 10 on squared paper and plot the following plots:

1. A=(5,−1) 2. B=(−5,4) 3. C=(−8,−7)
4. D=(−6,2) 5. E=(7,−3) 6. F=(2,9)

(Answers:



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