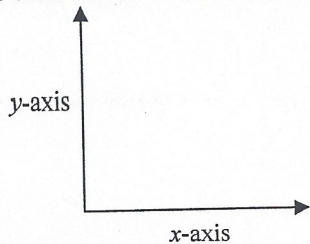


Title: Introduction to Co-ordinates.

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.

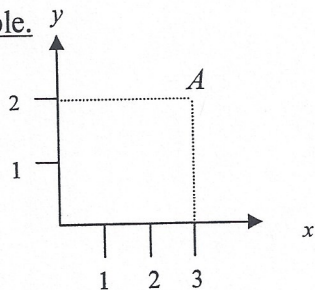


The point where these two axes meet is called the **origin**.

A point on a graph is given as a pair of **co-ordinates**: (x, y) . The x co-ordinate is always 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.

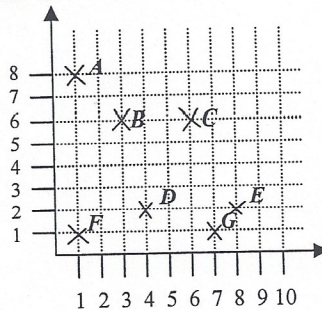
Example.



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 .



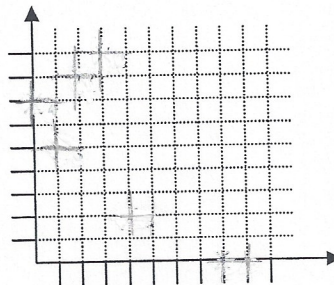
(Answers: $A=$; $B=$; $C=$; $D=$;
 $E=$; $F=$; $G=$

Exercise.

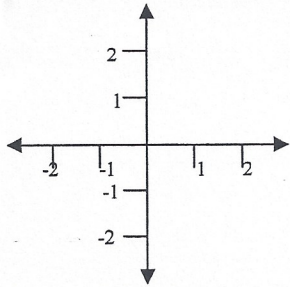
Draw axes from 0 to 10 on squared paper.
Plot the following points.

1. $(2, 8)$.
2. $(3, 9)$.
3. $(4, 2)$.
4. $(0, 7)$.
5. $(8, 0)$.
6. $(1, 5)$.

(Answers:

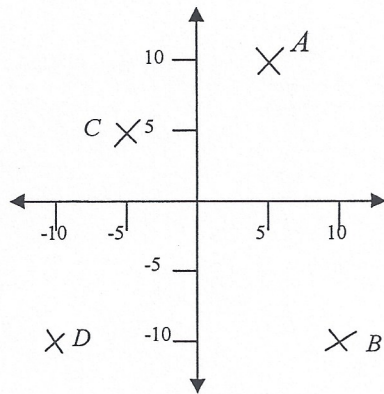


Often it is necessary to extend the axes in order to allow our variables to take negative values.



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

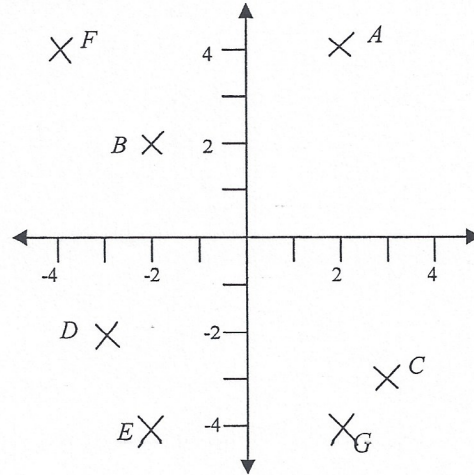
Example.



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 coordinates of the points A, B, C, D, E, F and G .



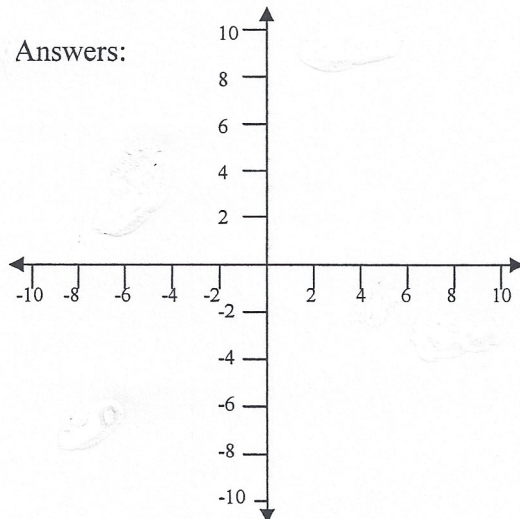
(Answers: $A=(3, 4)$; $B=(-2, 2)$; $C=(3, -3)$;
 $D=(-3, -2)$; $E=(-3, -4)$; $F=(-3, 3)$; $G=(3, -4)$.)

Exercise.

Draw axes from -10 to 10 on squared paper.
 Plot the following points.

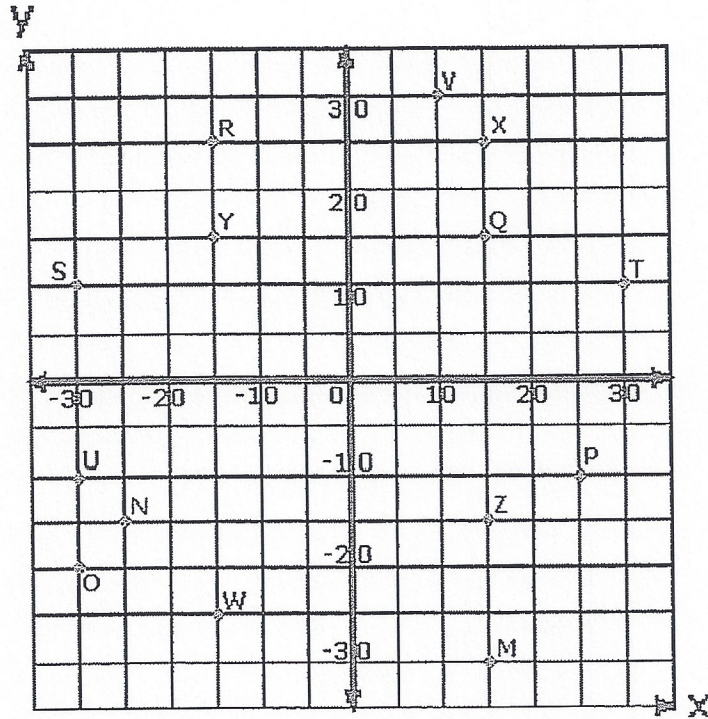
1. $(5, -1)$
2. $(-5, 4)$
3. $(-8, -7)$
4. $(-6, 2)$
5. $(7, -3)$
6. $(2, 9)$

Answers:



Coordinate Geometry

Name: _____ Date: _____ Period: _____

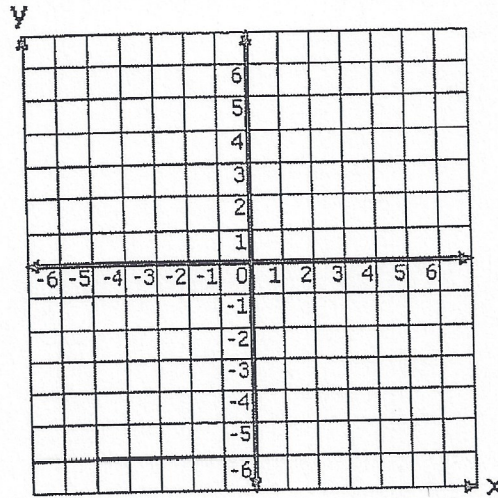


Answer the following questions using the above Cartesian plane.

1. What point is located at $(15, -30)$?
2. What are the coordinates for Y?
3. What point is located at $(-30, -20)$?
4. What are the coordinates for X?
5. What point is located at $(0, 0)$?
6. What are the coordinates for P?

Coordinate Geometry

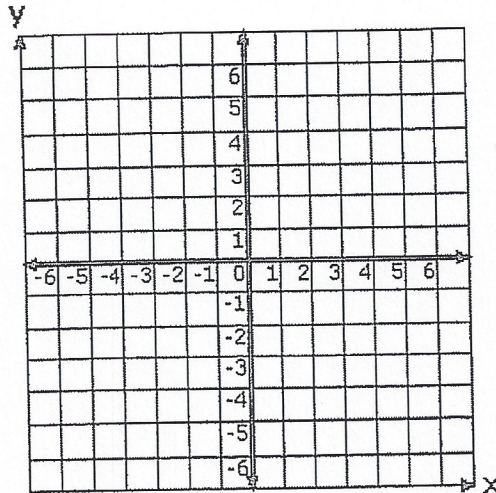
Name: _____ Date: _____ Period: _____



Name the shape that is drawn by the points.

1. A (-2,6) B (2,6) C (-2,2) D (2,2)

2. F (-6,-5) G (4,-5) H (-3,-1) I (1,-1)



Find the missing vertex.

3. The quadrilateral with vertices
X (-6,2) Y (-6,-5) Z (-1,2)

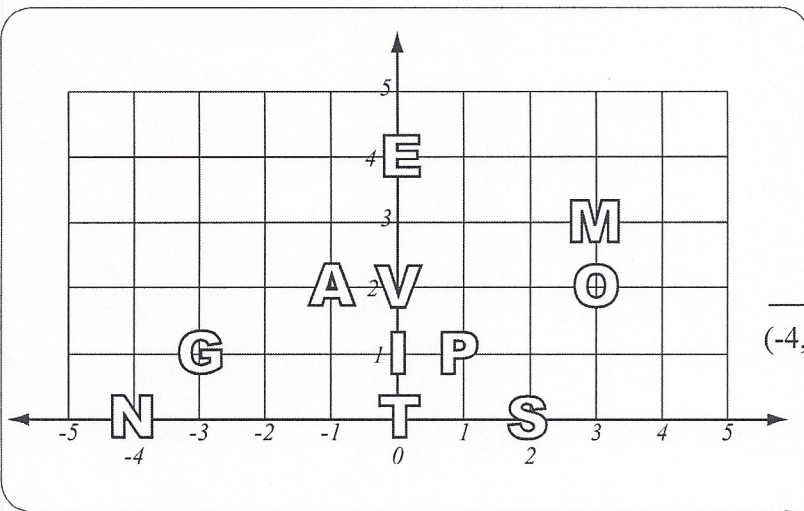
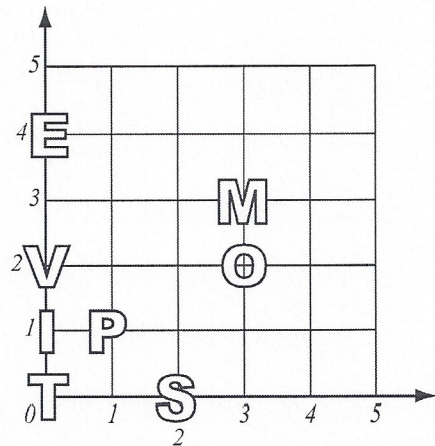
4. The rectangle with vertices L
(6,6) M (-6,6) P (6,3)

COUNTDOWN CHALLENGE

Coordinate Plane

Find the coordinates on the graph to discover a word or phrase.

____ _
 (1,1) (3,2) (2,0) (0,1) (0,0) (0,1) (0,2) (0,4)



____ _
 (-4,0) (0,4) (-3,1) (-1,2) (0,0) (0,1) (0,2) (0,4)

____ _
 (3,3) (-1,2) (0,0) (-3,-3)

____ _
 (0,1) (2,0)

____ _
 (1,1) (3,2) (-3,3) (0,4) (-4,-2)

