

Concept: Points on a Grid

Name: _____

COMPUTER COMPONENT

Instructions: In  follow the **Content Menu** path:

Graphing > Points on a Grid



Work through all Sub Lessons of the following Lessons **in order**:

- *Josh's Neighborhood*
- *Grids on Maps*
- *Ordered Pairs*
- *Shapes*
- *Battleship*

Additional Required Materials: Grid/Graph paper



As you work through **COMPUTER COMPONENT**, you will be prompted to make notes in your notebook/math journal.

When you reach the end of the section *Battleship*, record the amount of time it took you to sink the battleship. My time was _____

Now leave the computer and move on to **SUMMARY** below.

SUMMARY

1. Showcase your superior knowledge by filling in the spaces with the correct 'graphing' term.

(a) Maps are divided into regions by quadrants.

(b) You can identify a particular region by giving a 1st position and a 2nd position.

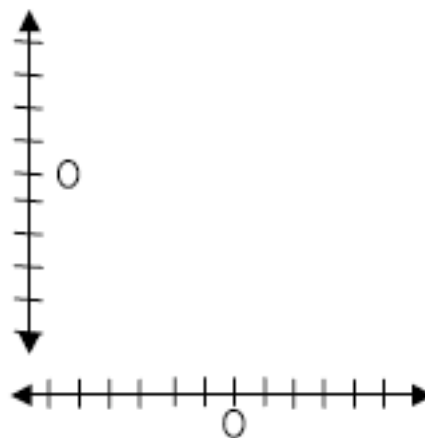
(c) Draw a sketch of:

The *Vertical Axis*:

(another name for this is the y - axis)

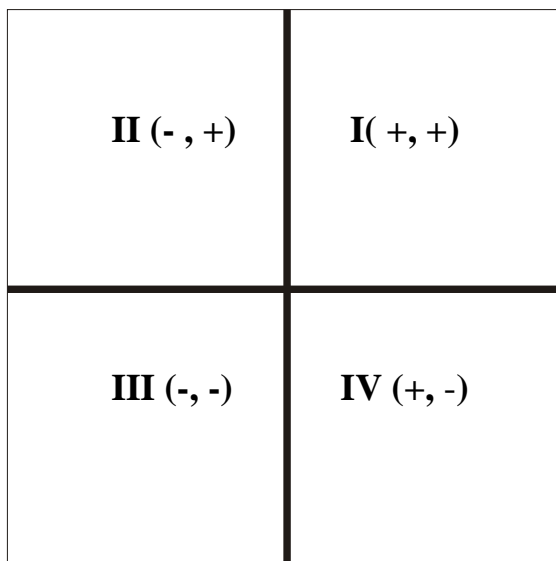
The *Horizontal Axis*:

(another name for this is the x - axis)



Where do the two axes intersect? Origin.

(d) Name/label each of the Quadrants.



Now, pick one point in each of the 4 quadrants and label each of the points as an ordered pair. *Check the location of the 4 points with a classmate. (Answers will vary)*

(e) The entire grid above is called The Cartesian Plane.
 (⇒It was named after Rene Descartes, its inventor!)

(f) The order of the coordinates an ordered pair is **important**.

OFF COMPUTER EXERCISES

1. On a piece of grid paper in your notebook, draw the Cartesian Plane according to the following instructions:

(a) The x-axis must have values, which range from -8 to 8

(b) The y-axis must have values, which range from -12 to 12
 (Don't forget to label each axis!)

2. Using the graph you created in #1, plot the following coordinates:
 (Don't forget to label each point with a letter!)

M (-1,1)

I (5, -10)

F (8,0)

A (0,4)

S (-6,11)

U (0, -9)

T (5,6)

N (-7, -2)

H (-3, -12)

Recall the section on Shapes in the computer program. *(Answers will vary.)*

3. Design your own shape and write instructions for drawing the shape by joining specific points. *Give only the instructions to a classmate and have them draw the corresponding shape.*

(Answers will vary)

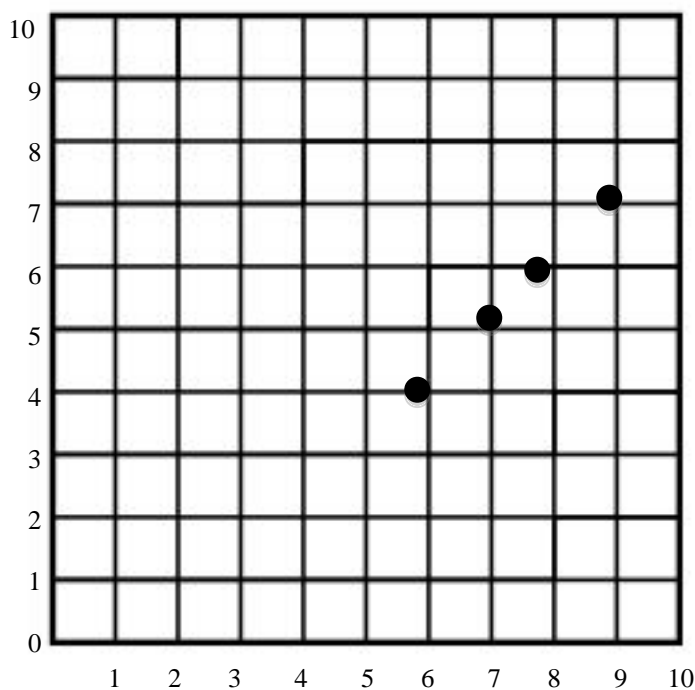
4. Draw only the top right quadrant of the Cartesian Plane according to the following instructions:

(a) The x-axis must have values, which range from 0 to 10

(b) The y-axis must have values, which range from 0 to 10
(Don't forget to label each axis!)

(c) Plot the point for each coordinate pair:

$(9, 7)$, $(8, 6)$, $(7, 5)$, $(6, 4)$



(d) What do you notice about the numbers in the coordinate pairs?

The numbers in the coordinate pairs decrease by 1 in each pair.

(e) What do you notice about the points plotted on the grid?

The points plotted on the grid are plotted in a diagonal.

(f) Predict the coordinate pair of the next point in the pattern. *Explain your reasoning.*

The coordinate pair of the next point in the pattern will be (5, 3) because the coordinate pairs are decreasing by 1 each time. From (6,4), the next point will be (5, 3)