UMATH X

Concept: Points on a Grid

Name:

COMPUTER COMPONENT

Instructions: In UMATH X 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_____.

(b) You can identify a particular region by giving a_____ and a _____.
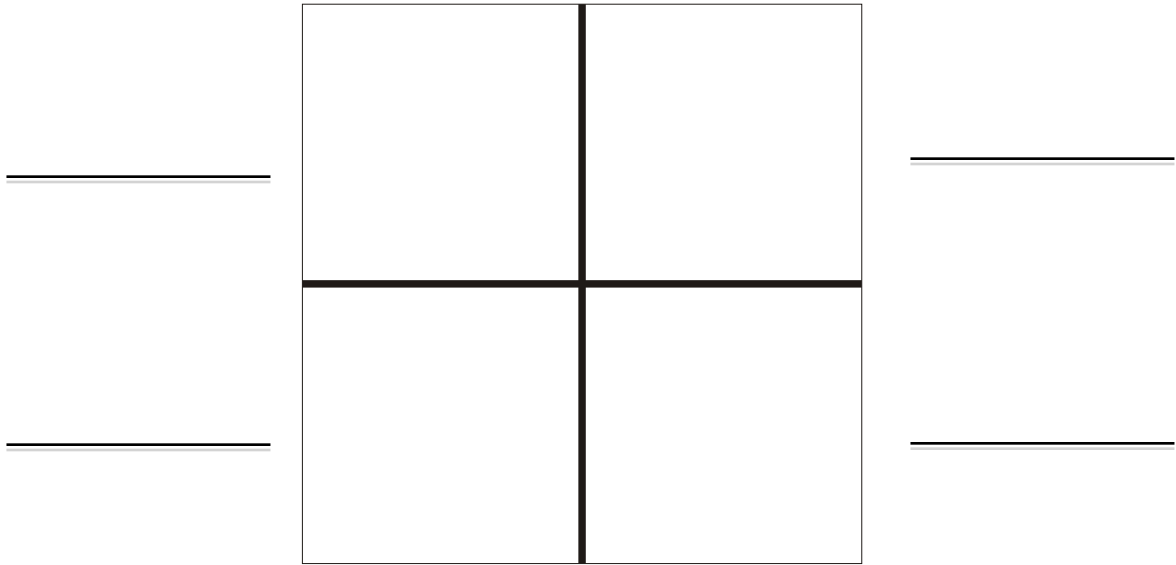
(c) Draw a sketch of:

The *Vertical Axis*:

(another name for this is the_____- axis)

The *Horizontal Axis*:

(another name for this is the _____- axis)

Where do the two axes intersect? _____.

(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*.

(e) The entire grid above is called The_____ _____.
   (⇨ It was named after Rene Descartes, its inventor!)

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

OFF COMPUTER EXERCISES

1. On a piece of grid paper in your notebook/math journal, 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.)*

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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.*

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?

_____

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

_____

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