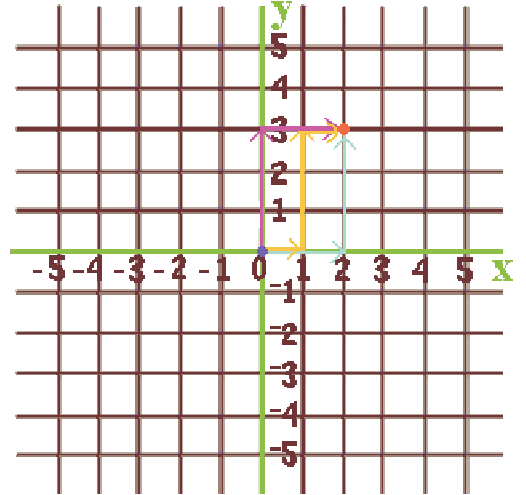


Algebra/Geometry Institute Summer 2006

Graphing Ordered Pairs on a Coordinate Plane

Faculty Name: Rene Branson
School: Grenada Middle School
Grenada, MS
Grade Level: Grade 7



1 Teaching objective(s)

Mississippi Benchmark Framework:

- Graph ordered pairs on a coordinate plane.

Institute Content Based on MS Framework

- Apply the principles of graphing in the coordinate system.

2 Instructional Activities

The teacher will:

- Present vocabulary and concepts of graphing points in all four quadrants of the coordinate plane via a PowerPoint presentation.
- Ask students where they see things that remind them of coordinate planes and graphing points.
- Lead the students to talk about maps and have examples of maps and globes and quickly mention global positioning systems used by various careers.
- Choose student pairs for playing Battleship.

The student will:

- Use handout to take notes during the presentation by filling in blanks.
- Participate in discussions about the terms they are using to fill in the blank places on the handout.
- Practice plotting points on a coordinate plane by playing Battleship with a partner.

- Using game boards made of folded construction paper along with folded typing paper containing two graphs, the students will place 4 ships of varying sizes on the top section. The ships should cover a total of at least 10 points on the graph.
- On the bottom section of the graph, students use x's and o's to keep track of the ordered pairs that they have called and the ones that have been a hit.
- The first student to sink all of his partner's ships is the winner.

3 Materials and Resources

Materials

Powerpoint on Graphing Points in the Coordinate Plane
Smart cart
handout
Battleship game boards
construction paper
markers

Resources

http://www.learningwave.com/lwonline/algebra_section2/alg_coord.html

<http://www.shodor.org/interactivate/discussions/fd2.html>

<http://www.purplemath.com/modules/plane.htm>

4 Assessment

Students will be assessed by interview (questioning) while filling in the handout during the presentation.

In addition, during the practice time/Battleship game, teacher will observe students and make anecdotal notes regarding their understanding of the concepts taught.

After several related concepts have been taught, formal testing will occur in a paper and pencil format.



Vocabulary

_____ - is a plane in which a horizontal number line and a vertical number line are perpendicular and intersect at their zero points.

_____ - two lines that intersect to form 90 degree angles

_____ - the vertical number line of two perpendicular lines in a coordinate plane

_____ - the horizontal number line which helps to form the coordinate plane

_____ - the point of intersection (0,0) of the x-axis and the y-axis in a coordinate plane

_____ - two numbers used together (x,y) to designate a particular point in a coordinate plane

_____ - the first number of an ordered pair used to designate a particular point in a coordinate plane

_____ - the second number of an ordered pair used to designate a particular point in a coordinate plane

_____ - the four sections that are formed by the axes in the coordinate plane

To graph an ordered pair on a coordinate plane:

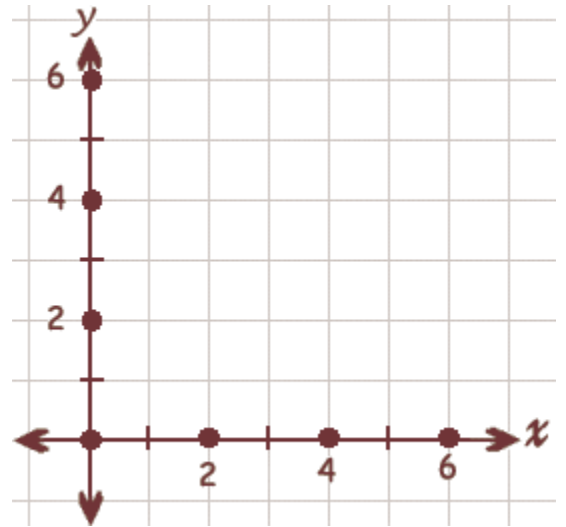
Example **(3,4)**

Step 1 Start at the _____.

Step 2 Since the x-coordinate is 3,
move _____ units to the _____.

Step 3 Since the y-coordinate is 4,
move _____ units _____.

Draw a dot.



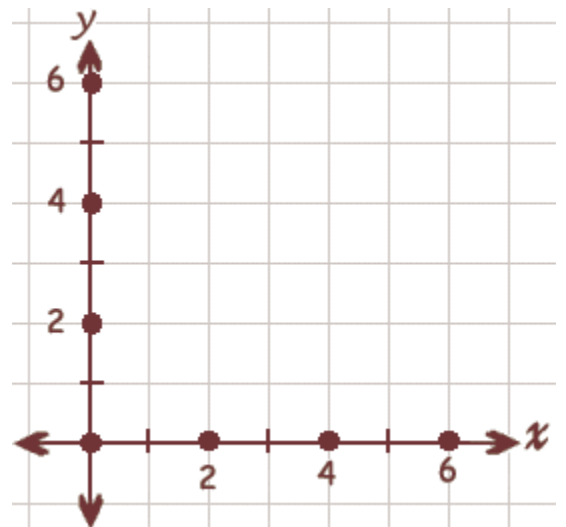
Example **(0,2)**

Step 1 Start at the _____.

Step 2 Since the _____ is _____, you
will not need to move to the right.

Step 3 Since the y-coordinate is 2,
move _____ units _____.

Draw a dot.

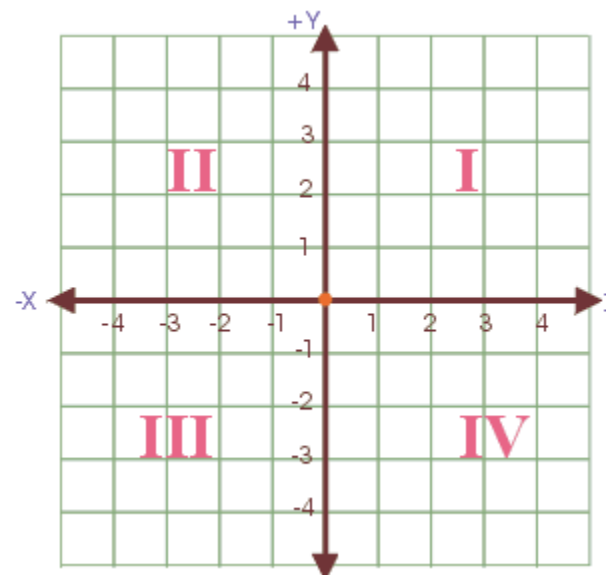


Try this one. **(-5,3)**

Step 1 Start at the _____.

Step 2 Since the x-coordinate is _____,
move _____ units to the _____.

Step 3 Since the y-coordinate is _____,



move _____ units _____.

Name the following points located on the coordinate plane.

A (____, ____)
x y

B (____, ____)

C (____, ____)

