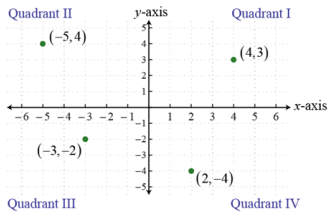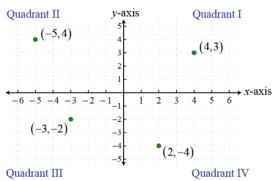**Learning Targets:**

- I can use the signs and integers of the coordinates in an ordered pair to find its location in a coordinate plane.

- I can graph points in all four quadrants of the coordinate plane to solve real-world and mathematical problems.

We have been working on vertical and horizontal numberlines…now we are going to see what happens when they intersect at zero!
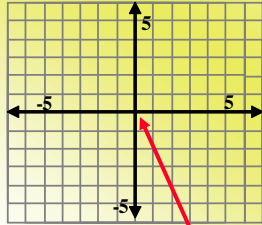
Quadrant II   y-axis   Quadrant I
(−5, 4)
(4, 3)

x-axis
−6 −5 −4 −3 −2 −1   1 2 3 4 5 6

(−3, −2)
(2, −4)

Quadrant III   Quadrant IV

-Horizontal number line is called the **x-axis**
-Vertical number line is called to **y-axis**

Quadrant II   y-axis   Quadrant I
(−5, 4)
(4, 3)

x-axis
−6 −5 −4 −3 −2 −1   1 2 3 4 5 6

(−3, −2)
(2, −4)

Quadrant III   Quadrant IV

Ordered pairs are used to locate points in a **coordinate plane**.
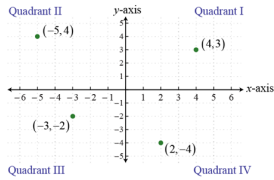
y-axis (vertical axis)

5

-5   5

x-axis (horizontal axis)

-5

**origin (0,0)**

Ordered Pairs are made of two integers:
-The first number is how far you go left or right (x).
-The second number is how far you go up or down you (y).
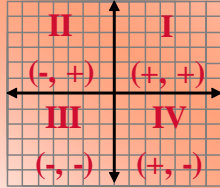
They are written like this (x, y)

Quadrant II   *y-axis*   Quadrant I
• (−5, 4)   • (4, 3)

                                   x-axis
−6 −5 −4 −3 −2 −1   1   2   3   4   5   6

(−3, −2) •

                    • (2, −4)

Quadrant III   Quadrant IV

In an ordered pair, the first number is always the **x-coordinate**. The second number is the **y-coordinate**.

Graph. (-3, 2)

5

-5   5

-5
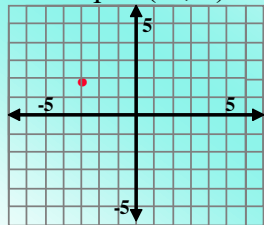
The x-axis and y-axis separate the coordinate plane into four sections, called **quadrants**.

| II (-, +)	I (+, +)
III (-, -)	IV (+, -)

Quadrant – (Quad = 4) the four sections that are created when the number lines intersect.

Quadrant One (I) – Top right; x and y are both positive
Quadrant Two (II) – Tor left; x is negative, y is positive
Quadrant Three (III) – Bottom Left; x and y are both negative
Quadrant Four (IV) – Bottom right; x is positive, y is negative

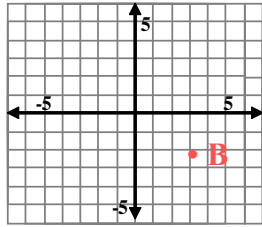Quadrant II $(-,+)$ Quadrant I $(+,+)$

Quadrant III $(-,-)$ Quadrant IV $(+,-)$
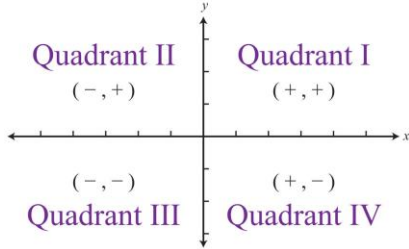
What is the ordered pair for A?

1. **(3, 1)**
2. **(1, 3)**
3. **(-3, 1)**
4. **(3, -1)**
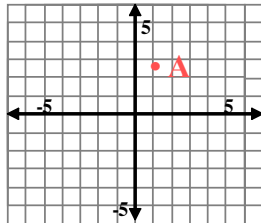
What is the ordered pair for B?

1. **(3, 2)**
2. **(-2, 3)**
3. **(-3, -2)**
4. **(3, -2)**

What is the ordered pair for C?

1. **(0, -4)**
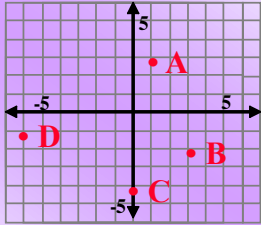2. **(-4, 0)**
3. **(0, 4)**
4. **(4, 0)**
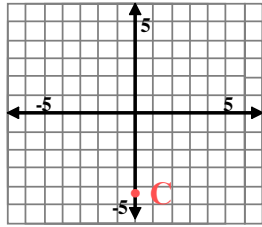
What is the ordered pair for D?

1. **(-1, -6)**
2. **(-6, -1)**
3. **(-6, 1)**
4. **(6, -1)**
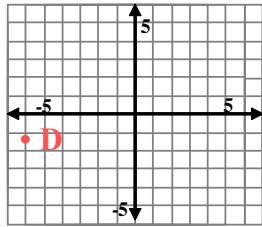
Write the ordered pairs that name points A, B, C, and D.

A = (1, 3)
B = (3, -2)
C = (0, -4)
D = (-6, -1)

Practice: Please use the graphing paper on the next slide for your answer. Scan or send a picture to boschl@luhsd.net

Plot each of the following points and label them with the letter:

A (3, 4)   F. (1,4)
B (-5 , 2)   G. (-2,-1)
C (3, -2)   H. (6,-2)
D (-1, -5)   I. (-3,5)
E (-4,-3)   J. (0,0)