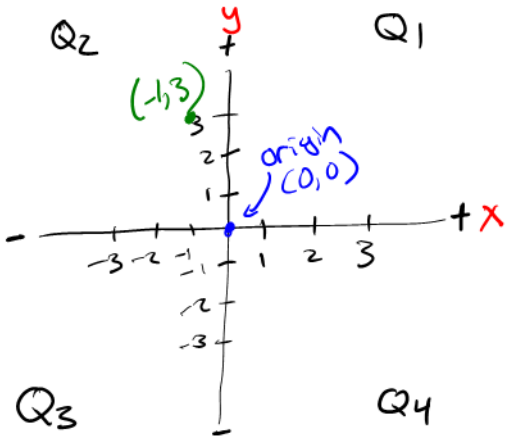
Math 9 – Unit 7: Coordinate Geometry Name: _____

Lesson #1: The Coordinate Plane Date: May 9, 2019

Learning Goal: We are learning how to use the coordinate grid system.

In this chapter and the next, we will learn a lot of new vocabulary. You need to become intimate with these words, so let's first define them, then draw/label them!



Coordinate Plane

- is a grid, made up of two number lines which meet at their zeros

Quadrants

- the corners of the coordinate Plane.

Always label them

x-axis

↳ the horizontal # line.

y-axis

↳ the vertical # Line

x-coordinate

- value / spot on the x-axis
  ↳ just a number.

y-coordinate

- value / spot on the y-axis
  ↳ Just a number.

Ordered Pair

Is an x + y coordinate Paired together. This gives a location, or point, on the coordinate plane.

All points: (x, y)

So, (-1, 3)

Origin

A special coordinate pair.

(0, 0)

Example 1: **Graph the following points on the given grid.**

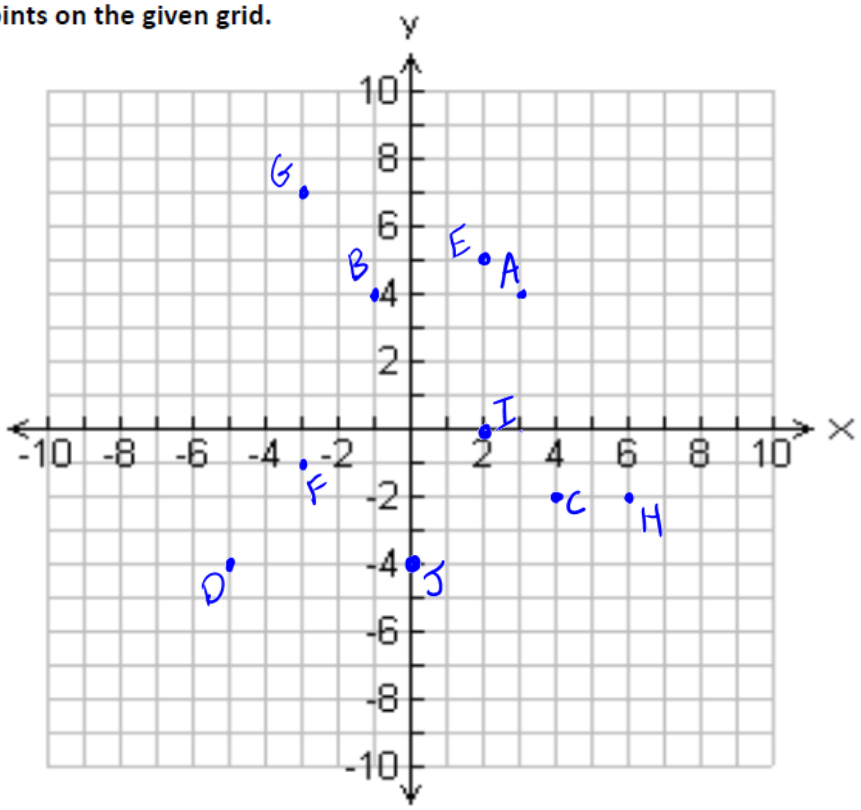
A (3 , 4) B (-1, 4)

C (4, -2) D (-5, -4)

E (2, 5) F (-3, -1)

G (-3, 7) H (6, -2)

I (2 , 0) J (0 , -4)



Example 2: **Calculate the area of a triangle with vertices at A(-5,-3), B(3,-3), and C(3,8)**

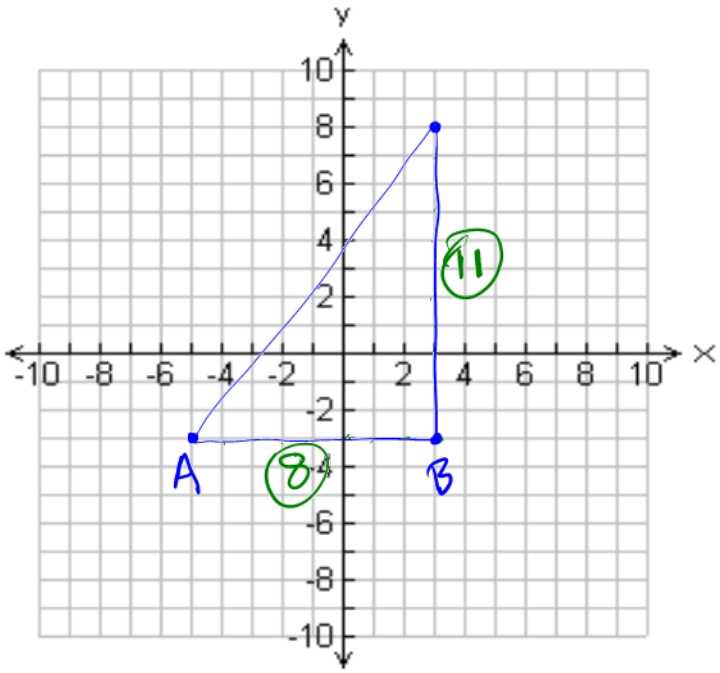
Step 1: Plot the points and connect the points to form a triangle

Step 2: Find the length of the base and height

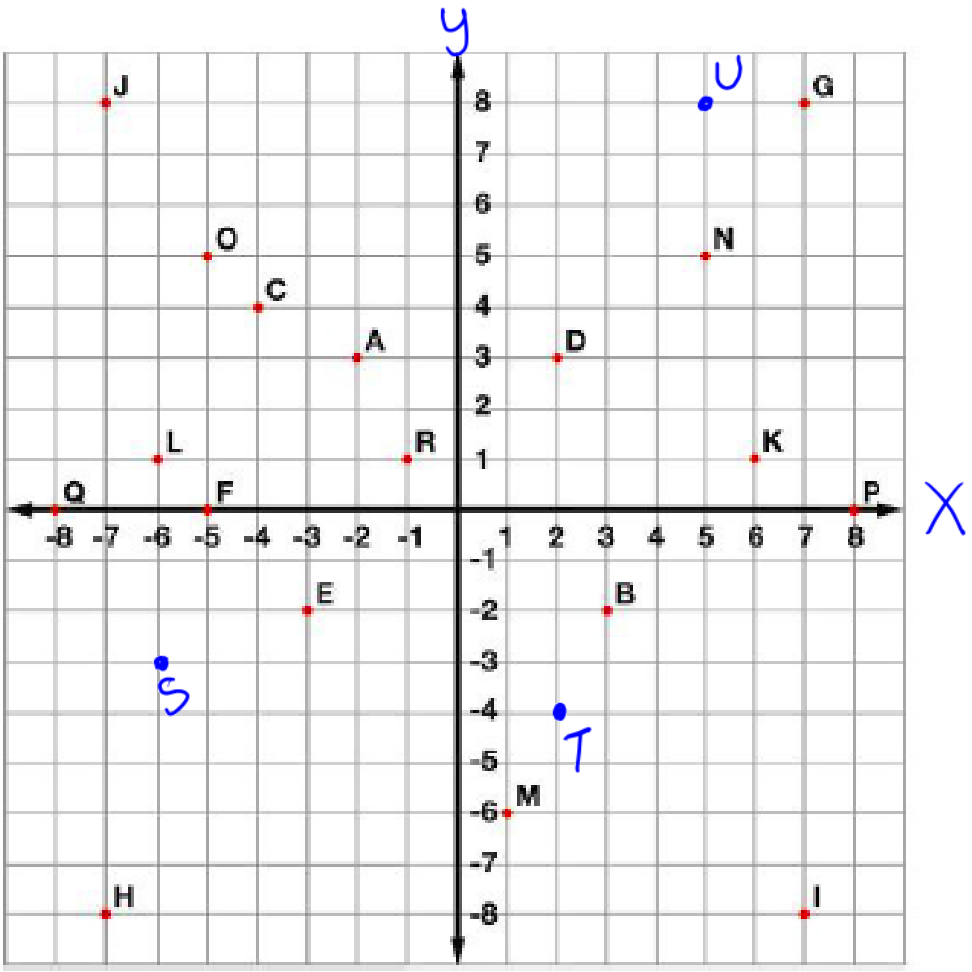
$A = \frac{bh}{2}$

$A = \frac{(8)(11)}{2} = \frac{88}{2}$

Area = 44 units^2



Step 3: Calculate the area



Tell what point is located at each ordered pair.

1. **(3,-2)** B
2. **(2,3)** D
3. **(-5,5)** O
4. **(-7,-8)** H
5. **(-4,4)** C
6. **(-5,0)** F

Write the ordered pair for each given point.

7. **E** (-3,-2)
8. **M** (1,-6)
9. **P** (8,0)
10. **G** (7,8)
11. **Q** (-8,0)
12. **N** (5,5) (x, y)

Plot the following points on the coordinate grid.

13. **S (-6,-3)** Q3
14. **T (2,-4)** Q4
15. **U (5,8)** Q1

Success Criteria:

- I can define the important key terms that are used in the coordinate grid system
- I can tell the difference between the "x" and "y" coordinates in an ordered pair
- I can find an ordered pair on a coordinate grid