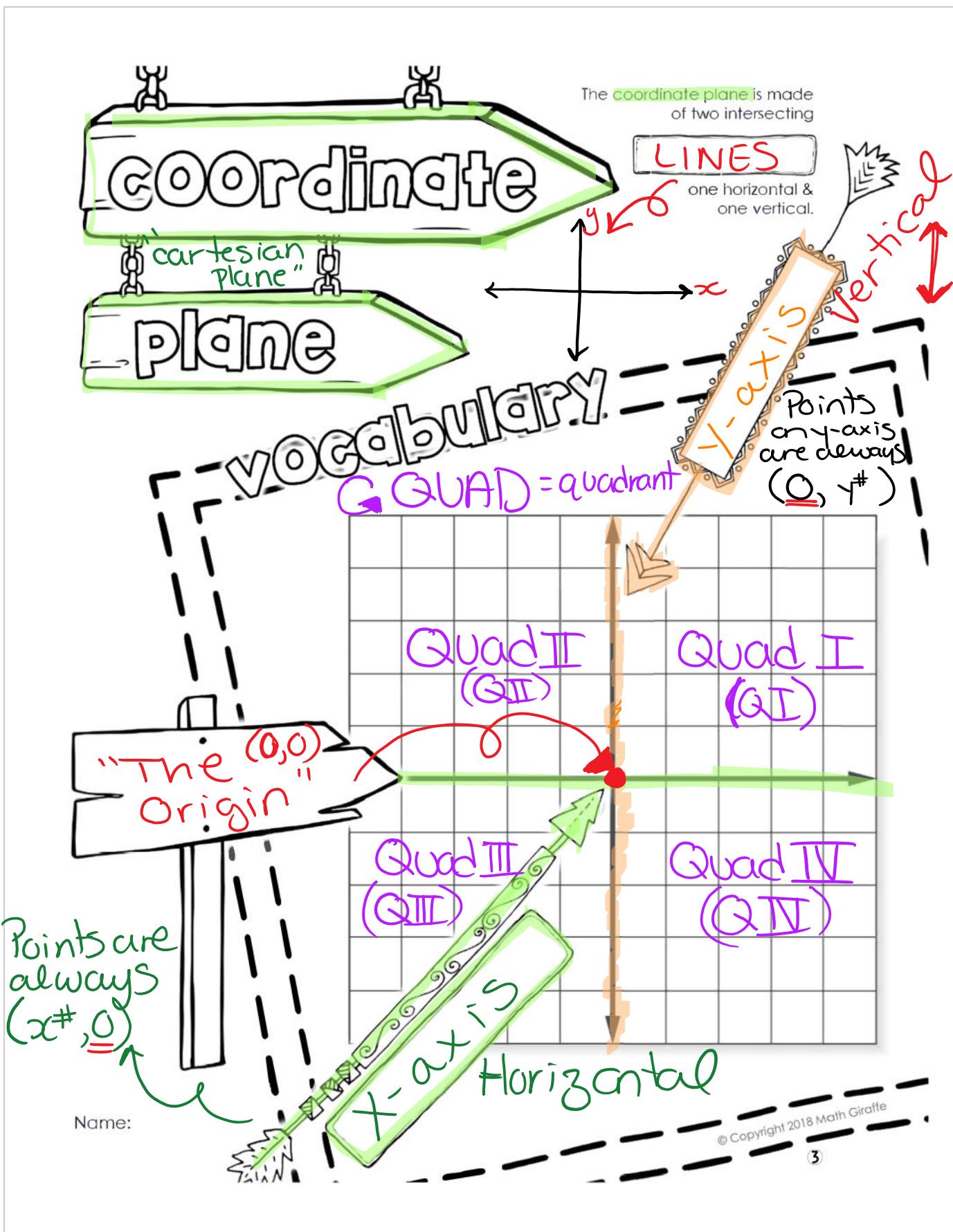


## 5.0 Introduction to Linear Equations

November 16, 2018 11:18 AM



Name:

# Plotting Points

1

Start at the  
**origin**

2

Count out  
the **(x-value)**  
**X-coordinate**

3

\*DO NOT  
go back  
to origin!!  
From there,  
count out  
the **(y-value)**  
**y-coordinate**

Fill in the blanks to write  
ordered pairs for the  
points that are labeled.

An **ordered pair**  
Identifies a point  
and contains  
an x-coordinate  
and y-coordinate.

(1, 9)

(3, 5)

(-1, 5)

(-1, -2)

(7, -6)

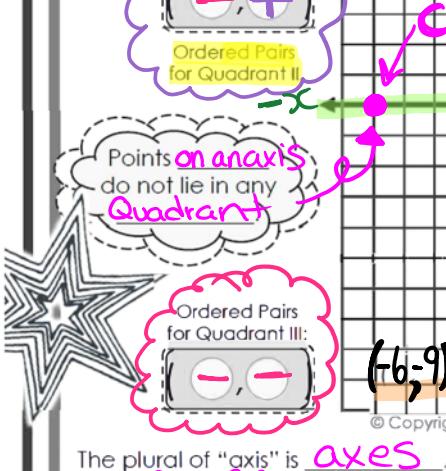
(7, -6)

(+,-)

(+, -)

(+, +)

(-, -)



The plural of "axis" is **axes**.

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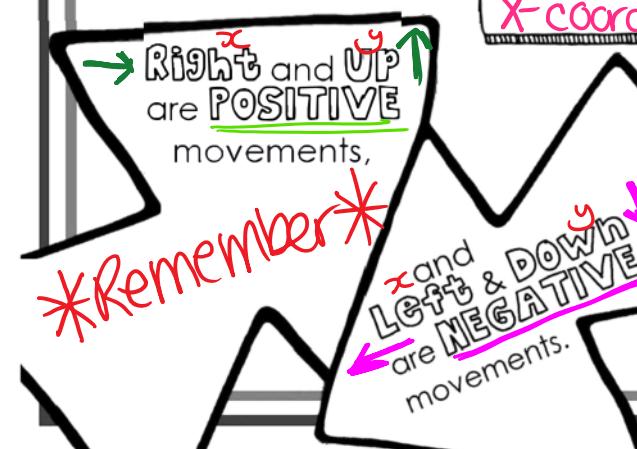
X-coordinate

+ coordinate

ordered pair

Which quadrants will have  
positive x-coordinates?  
y-coordinates? Place a +  
or - in each circle to show  
what the ordered pairs will  
look like in each  
quadrant.  
(Like this):

(+, -)



## 5.0 Intro to Graphing in Four Quadrants

A Cartesian coordinate system is made up of two real lines:

One horizontal, called the x-axis

One vertical, called the y-axis

The point where the axes cross is called the origin

The axes divide the page into four sections called Quadrants (1-4)

Each point has two coordinates presented in the form:  $(x, y)$ : "ordered pair"

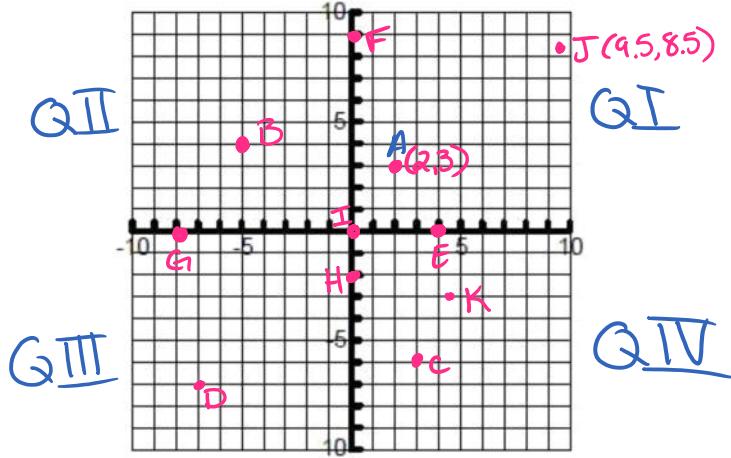
The first one, called the x-coordinate gives the position of the point relative to the origin (0,0) ... center

The second one, called the y-coordinate gives the position of the point relative to the x-axis (x-coordinate).

Example #1: put a dot give the ordered pair  $(x, y)$

a) Plot and label the following points on the grid provided.

A(2, 3)	B(-5, 4)	C(3, -6)	D(-7, -7)	E(4, 0)	F(0, 9)
G(-8, 0)	H(0, -2)	I(0, 0)	*J(9.5, 8.5)	*K( $\frac{9}{2}, -3$ )	$\frac{9}{2} = 4.5$



b) Where applicable, state which quadrant the coordinate is in.

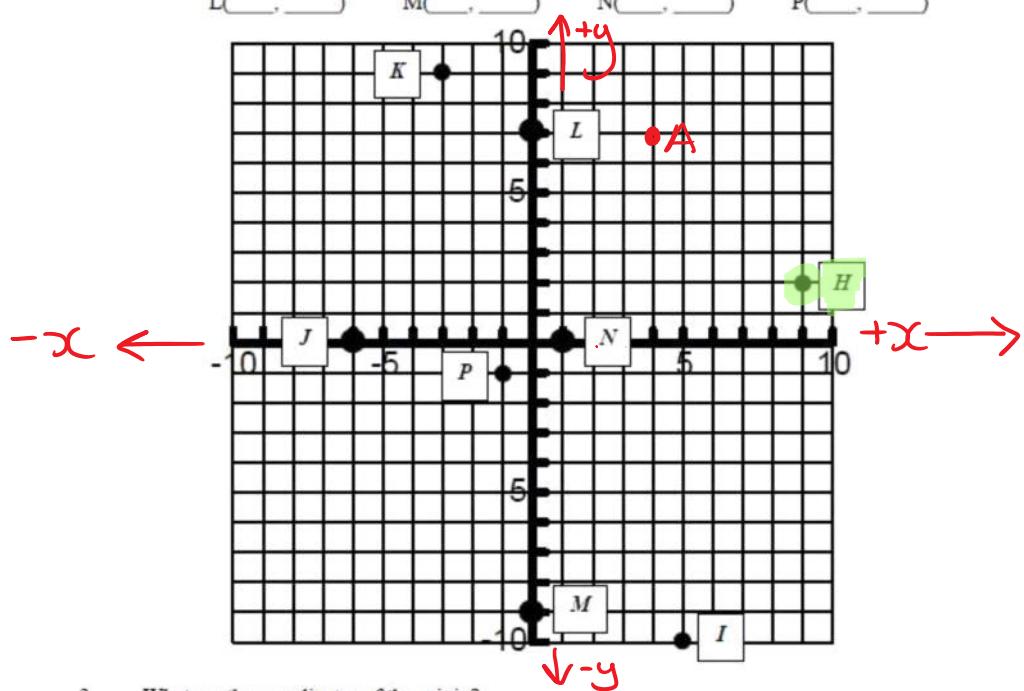
- |              |              |              |              |              |             |
|--------------|--------------|--------------|--------------|--------------|-------------|
| A: <u>Q1</u> | B: <u>Q2</u> | C: <u>Q4</u> | D: <u>Q3</u> | E: <u>—</u>  | F: <u>—</u> |
| G: <u>—</u>  | H: <u>—</u>  | I: <u>—</u>  | J: <u>Q1</u> | K: <u>Q4</u> |             |

**Practice:**

1. Plot the following points: A(4, 7) B(-3, 5) C(-5, -8) D(6, -1)  
E(7, 0) F(-9, 0) G(0, 3)

2. Give the coordinates of the points shown on the graph.

( $x$ ,  $y$ ) H(9, 2) I(\_\_\_\_, \_\_\_\_) J(\_\_\_\_, \_\_\_\_) K(\_\_\_\_, \_\_\_\_)  
L(\_\_\_\_, \_\_\_\_) M(\_\_\_\_, \_\_\_\_) N(\_\_\_\_, \_\_\_\_) P(\_\_\_\_, \_\_\_\_)



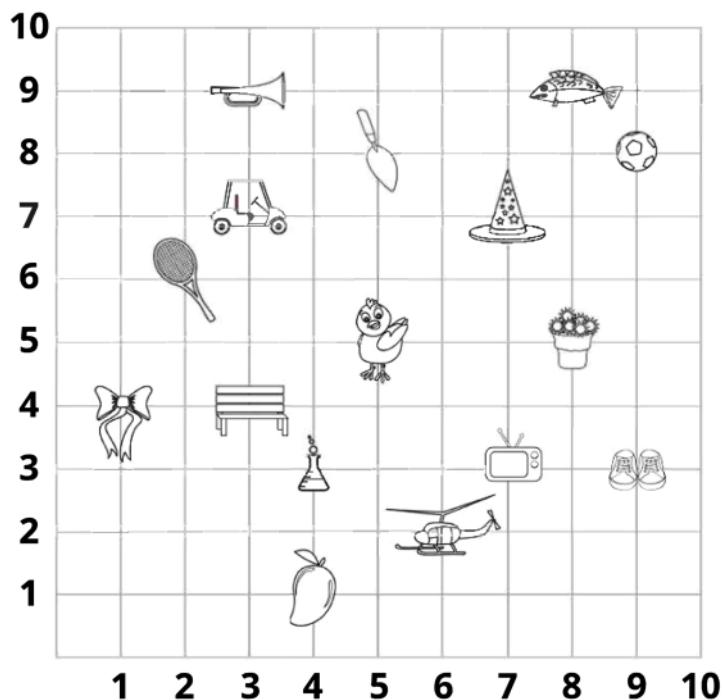
3. What are the coordinates of the origin? \_\_\_\_\_

4. Where are points that have an  $x$ -coordinate of 0 located? \_\_\_\_\_

Where are points that have a  $y$ -coordinate of 0 located? \_\_\_\_\_

5. Fill in the chart:

Quadrant	I	II	III	IV
Sign of $x$ -coordinate				
Sign of $y$ -coordinate				

**PRACTICE****Ordered Pairs ( $x,y$ )**

Write the ordered pair for each of the objects listed.

**example:** television - **(7,3)**

- a. helicopter - \_\_\_\_\_      b. shoes - \_\_\_\_\_      c. pepper - \_\_\_\_\_  
d. wizard's hat - \_\_\_\_\_      e. fish - \_\_\_\_\_      f. golf cart - \_\_\_\_\_

Tell which object is located at each point.

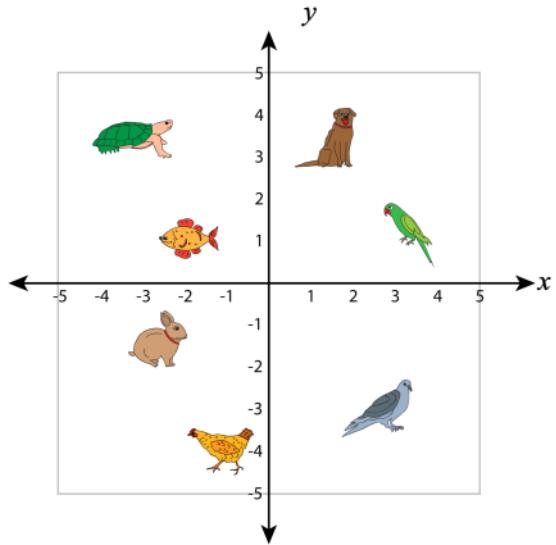
- g. (3,4) - \_\_\_\_\_      h. (2,6) - \_\_\_\_\_      i. (1,4) - \_\_\_\_\_  
j. (5,5) - \_\_\_\_\_      k. (9,8) - \_\_\_\_\_      l. (3,9) - \_\_\_\_\_

Score : \_\_\_\_\_



### Identifying Quadrant

A) Write the quadrant belongs to each animal.



\_\_\_\_\_

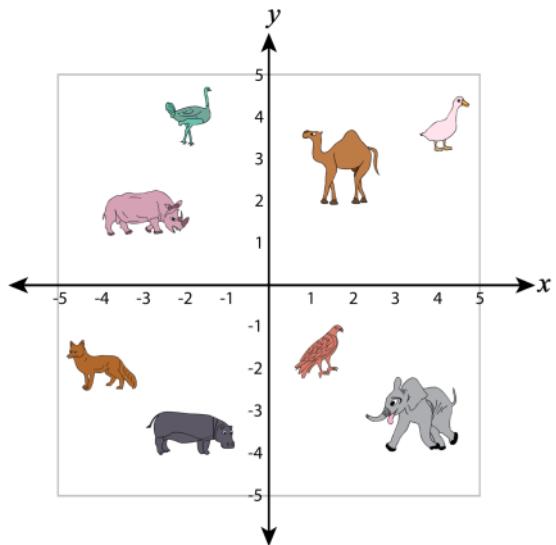
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

B) Write the animals belong to each quadrant.



I - quadrant : \_\_\_\_\_ , \_\_\_\_\_

II - quadrant : \_\_\_\_\_ , \_\_\_\_\_

III - quadrant : \_\_\_\_\_ , \_\_\_\_\_

IV - quadrant : \_\_\_\_\_ , \_\_\_\_\_

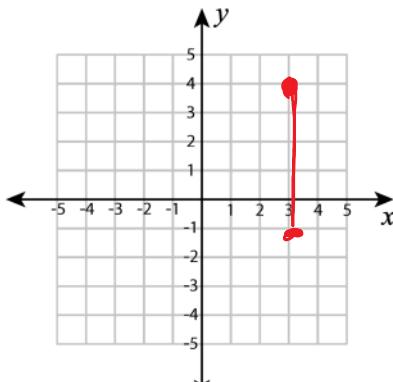


connect  
dot

### Plotting Points - Line segments

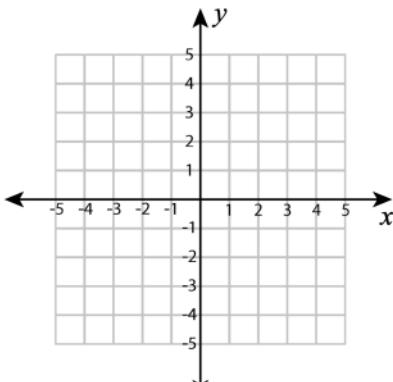
Plot each set of ordered pairs. Join the points and find the length of the line segment.

1)  $(3, -1), (3, 4)$



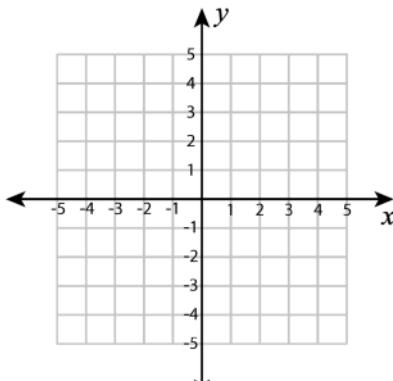
Length of the line segment = \_\_\_\_\_

2)  $(-4, 1), (4, 1)$



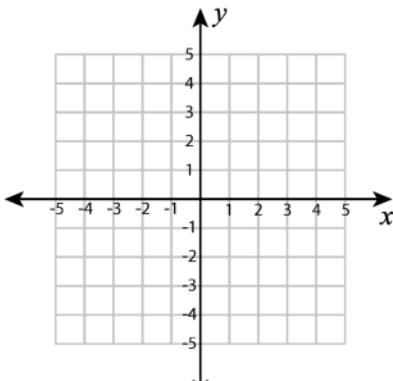
Length of the line segment = \_\_\_\_\_

3)  $(-3, 1), (-3, 4)$

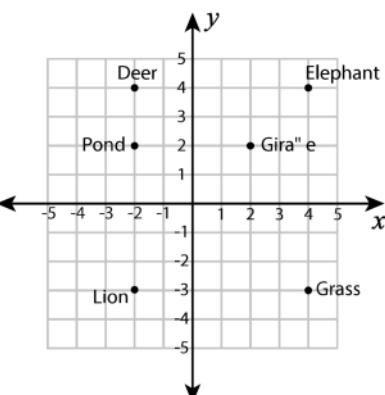


Length of the line segment = \_\_\_\_\_

4)  $(-1, -4), (1, -4)$



Length of the line segment = \_\_\_\_\_



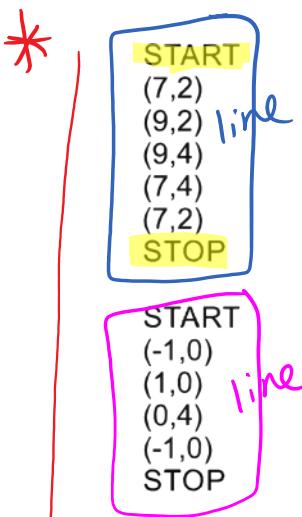
5) How far an elephant is away from the grass? \_\_\_\_\_

6) Which is closer to the pond, gira'e or deer? \_\_\_\_\_

7) How many units does the lion move to catch the deer? \_\_\_\_\_



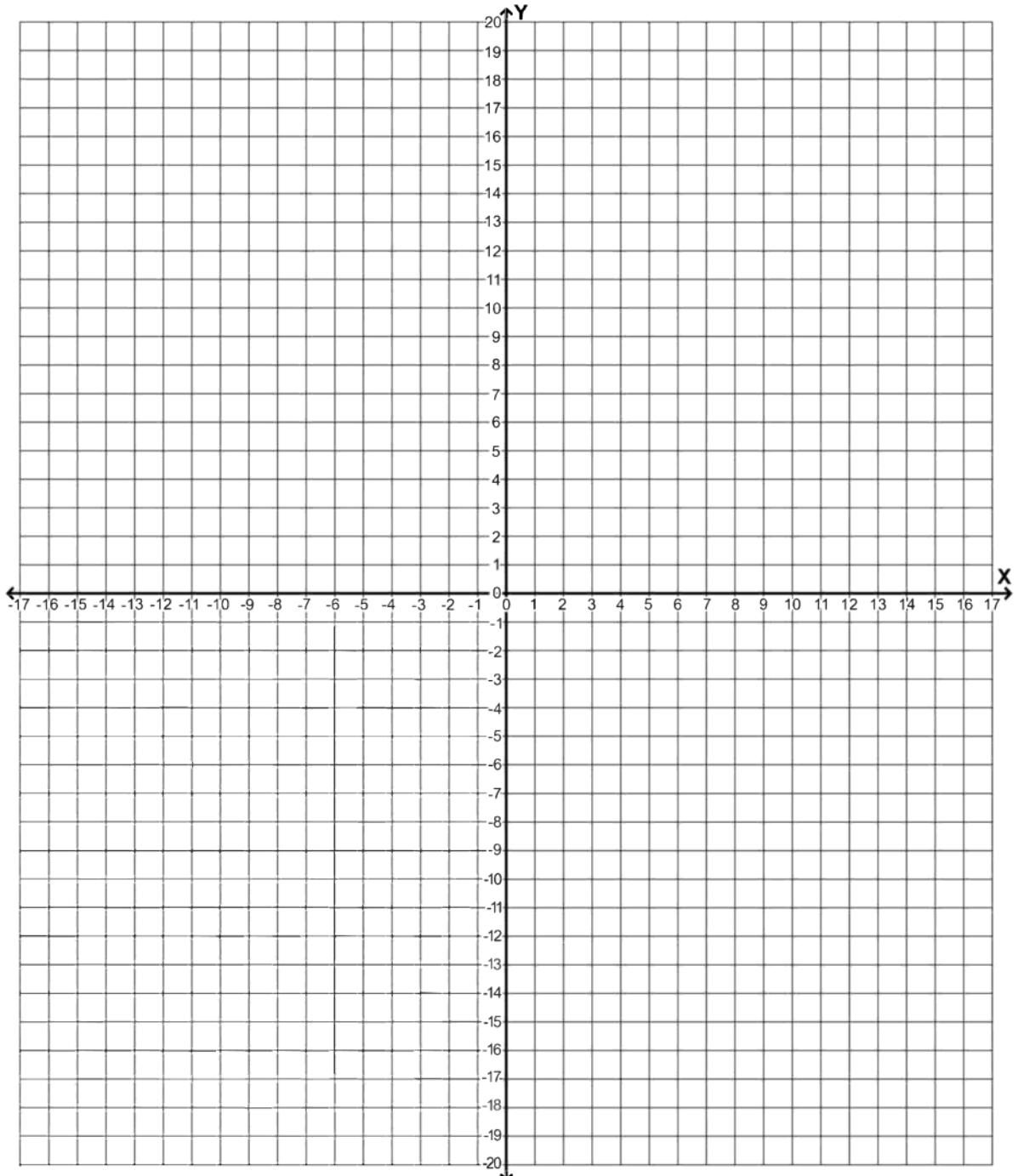
Coordinate Graphing Mystery Picture - Four Quadrants  
Plot the ordered pairs and connect them with a straight line as you plot.



START	(5,19)	(-3,-19)	(15,8)
(-13,8)	(1,13)	(0,-17)	(12,12)
(-10,12)	(3,9)	(3,-19)	(7,11)
(-5,11)	(0,8)	(1,-16)	(11,14)
(-9,14)	(1,6)	(3,-14)	(9,17)
(-7,18)	(-2,6)	(1,-14)	STOP
(-10,16)	(-4,-5)	(0,-11)	START
(-13,20)	(-1,-5)	(-1,-14)	(-10,-19)
(-12,15)	(-1,-2)	(-3,-14)	(-4,-14)
(-16,14)	(1,-2)	(-1,-16)	(-7,-10)
(-12,13)	(1,-5)	(-3,-19)	(-3,-9)
(-13,8)	(4,-5)	STOP	(-6,-3)
STOP	(2,7)	(2,7)	(-9,-3)
	(6,8)	START	(-4,6)
START	(3,13)	(7,-4)	(-12,6)
(8,-9)	(5,19)	(7,0)	(-11,4)
(9,-6)	STOP	(10,0)	(-8,4)
(12,-9)		(11,1)	(-13,-5)
(11,-5)	START	(11,5)	(-6,-5)
(14,-6)	(-5,-8)	(10,6)	(-5,-8)
(12,-2)	(-7,-6)	(5,6)	(-9,-10)
(16,-1)	(-9,-9)	(5,-5)	(-6,-14)
(12,2)	(-10,-6)	(7,-5)	(-10,-19)
(16,4)	(-13,-10)	(4,-8)	STOP
(12,5)	(-12,-6)	(7,-10)	
(13,9)	(-16,-7)	(4,-12)	
(10,7)	(-13,-4)	(9,-19)	

## Coordinate Graphing Mystery Picture - Four Quadrants

Name: \_\_\_\_\_



①①