



•Plotting Points ---  
In the Cartesian plane

This material is the property of the AK Dept. of Education. It may be used and reproduced for non-profit, educational purposes only after contacting the ACE Distance Learning Center. (202)



1

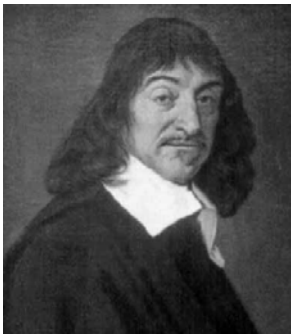


First, let's take a look at....



2

A little history



3

A little history

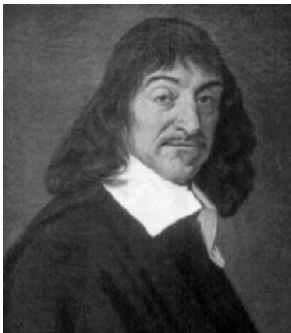


- René Descartes  
(1596-1650)



4

A little history



- René Descartes  
(1596-1650)
- philosopher



5

A little history



- René Descartes  
(1596-1650)
- philosopher
- mathematician



6

## A little history



- René Descartes (1596-1650)
- philosopher
- mathematician
- joined algebra and geometry



7

## A little history



- René Descartes (1596-1650)
- philosopher
- mathematician
- joined algebra and geometry
- credited with--- Cartesian plane



8



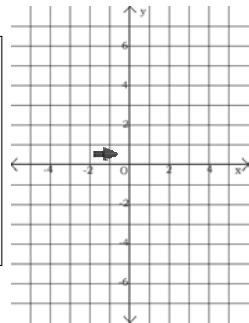
Now, let's take a look at...



9

## Cartesian plane

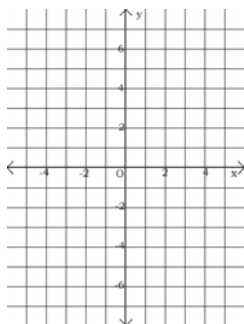
Formed by intersecting two real number lines at right angles



10

## Cartesian plane

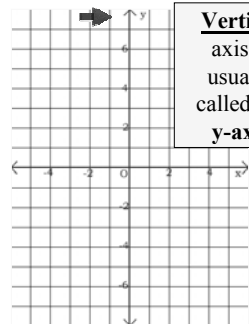
**Horizontal** axis is usually called the **x-axis**



11

## Cartesian plane


**Vertical** axis is usually called the **y-axis**

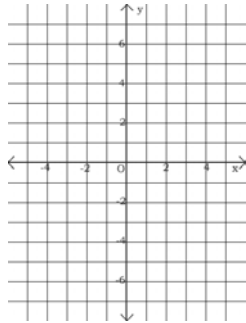


12

## Cartesian plane

Also called:


- x-y plane 

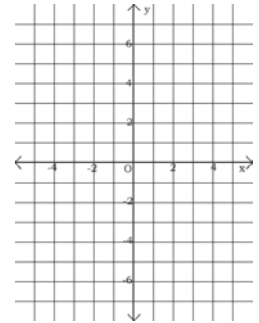


13

## Cartesian plane

Also called:

- x-y plane
- rectangular coordinate system 



14



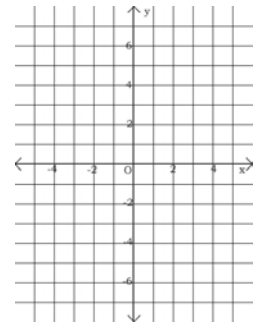
Now, let's take a closer look...



15

## Cartesian plane

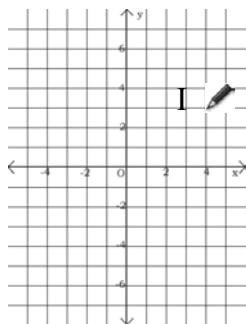
Divides into  
Four Quadrants



16

## Cartesian plane

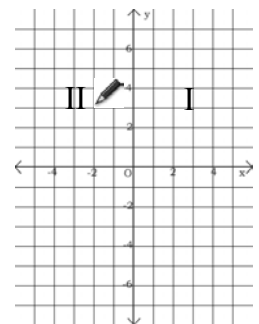
Divides into  
Four Quadrants



17

## Cartesian plane

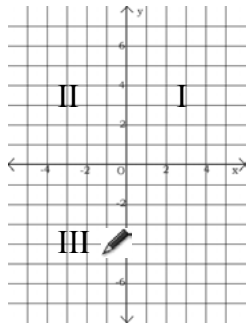
Divides into  
Four Quadrants



18

## Cartesian plane

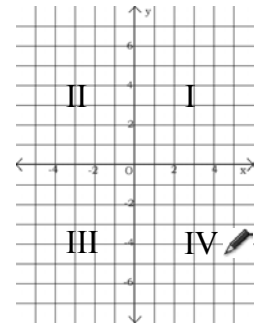
Divides into  
Four Quadrants



19

## Cartesian plane

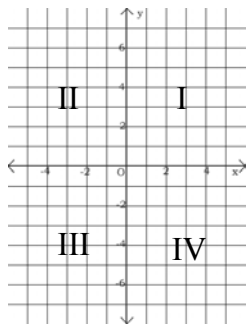
Divides into  
Four Quadrants



20

## Cartesian plane

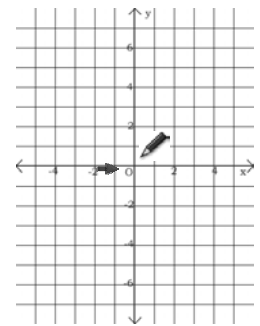
Divides into  
Four Quadrants  
and...



21


## Cartesian plane

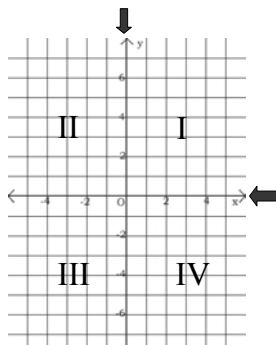
The intersection  
of the two axes  
is called the  
**origin**



22


## Cartesian plane

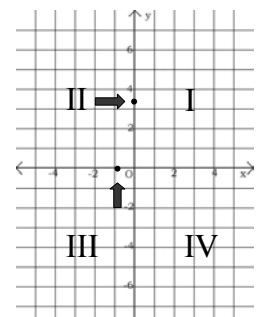
  
**Math Alert**  
The **quadrants** do  
**not** include the  
axes



23


## Cartesian plane

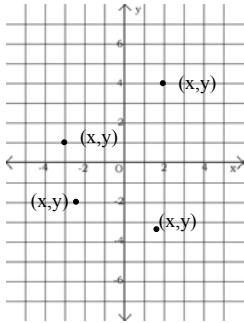
  
**Math Alert**  
A **point** on the x  
or y axis is **not** in a  
quadrant



24


## Cartesian plane

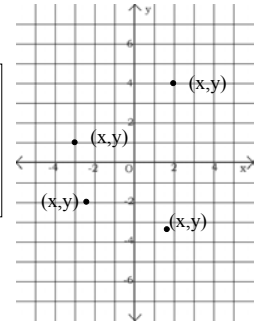
Each point in the **x-y plane** is associated with an ordered pair, **(x,y)** 



25

## Cartesian plane

The **x** and **y** of the ordered pair, **(x,y)**, are called its coordinates 



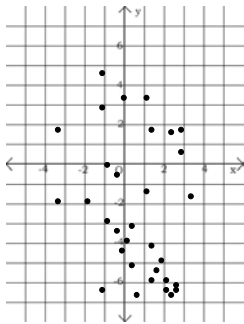
26

## Cartesian plane



### Math Alert

There is an infinite amount of points in the Cartesian plane




27

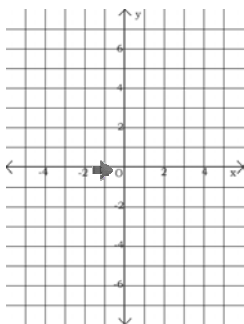
Take note of these graphing basics 



28


## Cartesian plane

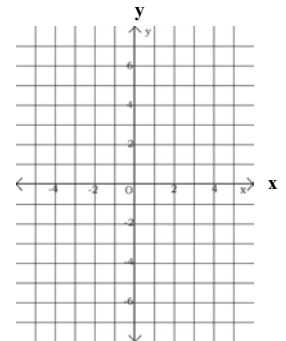
• Always start at **(0,0)**---every point “originates” at the origin 



29

## Cartesian plane

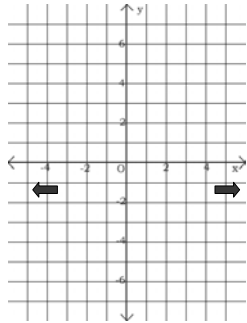
• In plotting **(x,y)** ---remember the directions of both the **x** and **y** axis 



30

## Cartesian plane

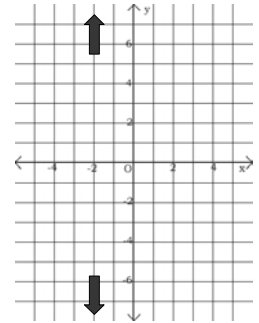
- $(x, \text{---})$   
x-axis goes  
**left** and **right**



31

## Cartesian plane

- $(\text{---}, y)$   
y-axis goes  
**up** and **down**



32



Now, let's look at graphing...



33



Now, let's look at graphing...

$(2, 1)$

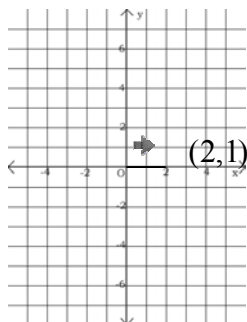


34

## Cartesian plane

$(2, 1)$

- Start at  $(0, 0)$
- $(\leftarrow \rightarrow, \text{---})$
- Move right  
2

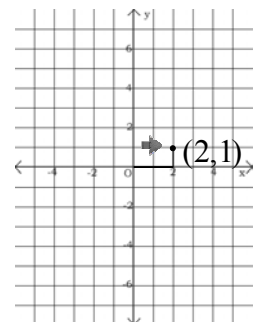


35

## Cartesian plane

$(2, 1)$

- $(\text{---}, \uparrow \downarrow)$
- $(\text{---}, 1)$
- Move up 1



36



Now, let's look at graphing...



Now, let's look at graphing...

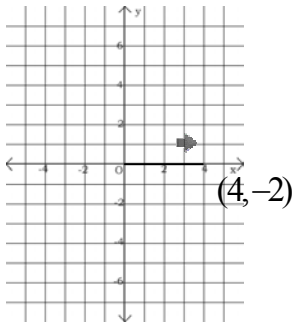
$$(4, -2)$$



Cartesian plane

$$(4, -2)$$

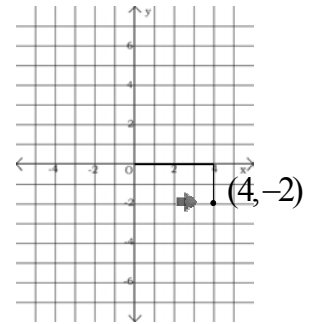
- Start at (0,0)
- (←→, ---)
- Move right 4



Cartesian plane

$$(4, -2)$$

- (---, ↓)
- (---, -2)
- Move down 2



Now, let's look at graphing...




Now, let's look at graphing...

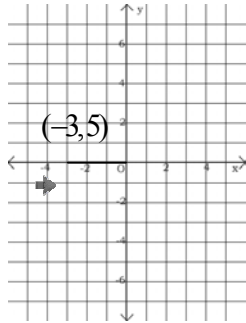
$$(-3, 5)$$



## Cartesian plane

$(-3,5)$


- Start at  $(0,0)$
- $(\leftarrow, \text{---})$
- Move left 3 

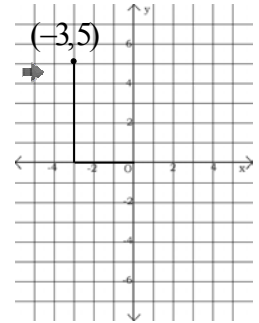


43

## Cartesian plane

$(-3,5)$

- $(\text{---}, \uparrow^+)$
- $(\text{---}, 5)$
- Move up 5 



44



Now, let's look at graphing...



45



Now, let's look at graphing...


$(0,4)$

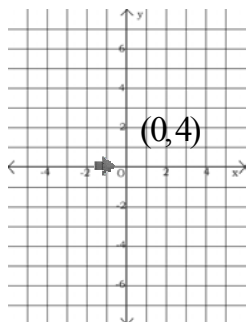


46

## Cartesian plane

$(0,4)$


- Start at  $(0,0)$
- (none, ---)
- No move right or left 

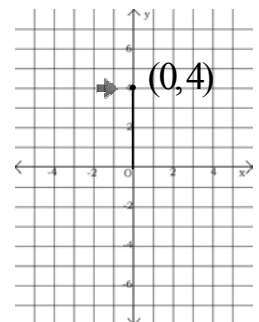


47

## Cartesian plane

$(0,4)$

- $(0, \uparrow^+)$
- $(\text{---}, 4)$
- Move up 4 



48



Now, let's look at graphing...



Now, let's look at graphing...

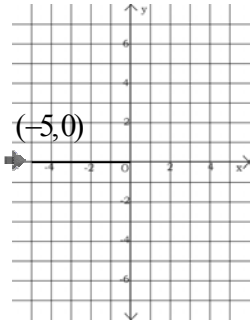
$(-5,0)$



Cartesian plane

$(-5,0)$

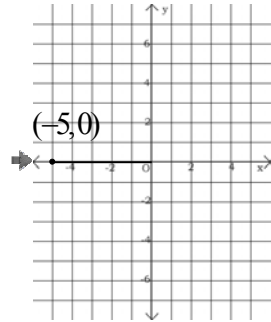
- Start at  $(0,0)$
- ( $\leftarrow$ , ---)
- Move left 5



Cartesian plane

$(-5,0)$

- (---, 0)
- No move up or down



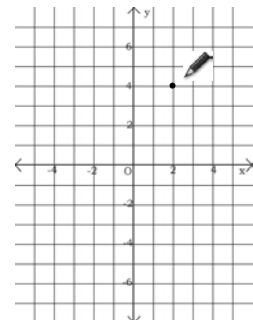
Now, let's look at a little graphing practice...



Cartesian plane

Directions:

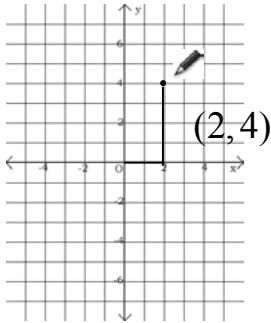
Approximate the coordinates of the point---  
Or what is the '(x,y)' of the point?



## Cartesian plane

Directions:

Approximate  
the coordinates  
of the point

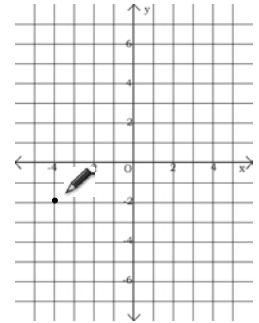


55

## Cartesian plane

Directions:

Approximate  
the coordinates  
of the point

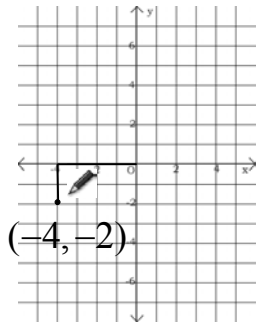


56

## Cartesian plane

Directions:

Approximate  
the coordinates  
of the point

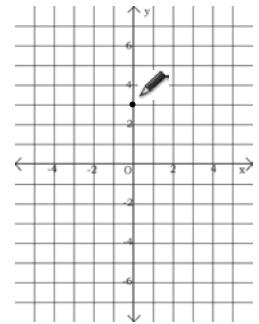


57

## Cartesian plane

Directions:

Approximate  
the coordinates  
of the point

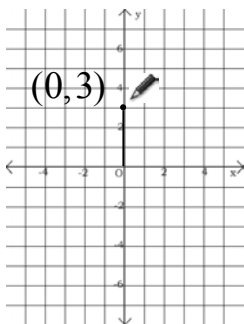


58

## Cartesian plane

Directions:

Approximate  
the coordinates  
of the point

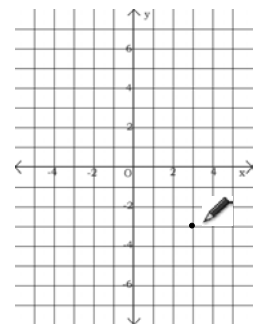


59

## Cartesian plane

Directions:

Approximate  
the coordinates  
of the point

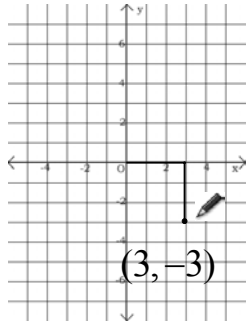


60

## Cartesian plane

Directions:

Approximate the coordinates of the point

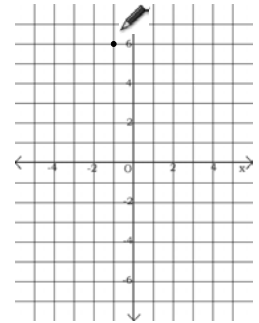


61

## Cartesian plane

Directions:

Approximate the coordinates of the point

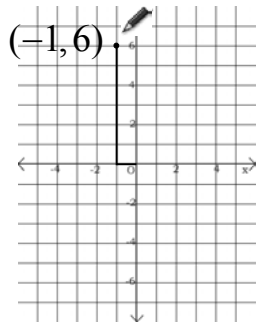


62

## Cartesian plane

Directions:

Approximate the coordinates of the point

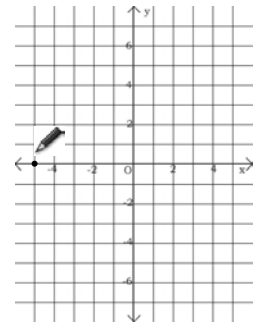


63

## Cartesian plane

Directions:

Approximate the coordinates of the point

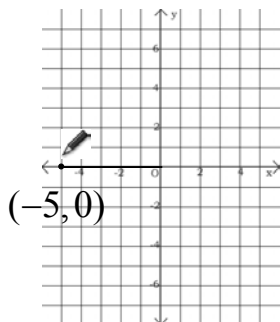


64

## Cartesian plane

Directions:

Approximate the coordinates of the point

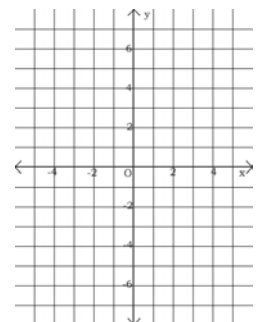


65

## Cartesian plane

Directions:

Find the coordinates of the point two units to the left of the y-axis and five units above the x-axis

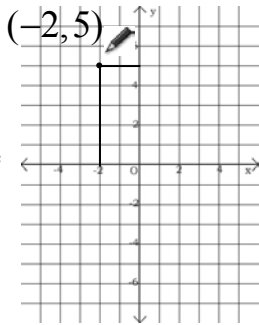


66

## Cartesian plane

Directions:


Find the coordinates of the point two units to the left of the y-axis and five units above the x-axis

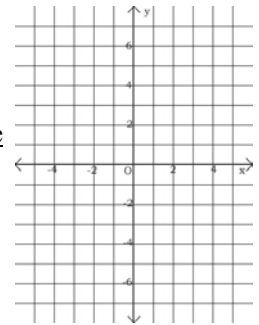


67

## Cartesian plane

Directions:

Find the coordinates of the point on the x-axis and three units to the left of the y-axis 

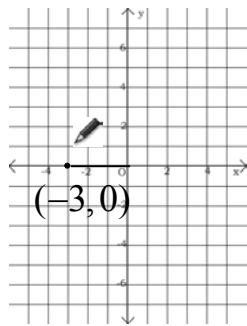


68

## Cartesian plane

Directions:

Find the coordinates of the point on the x-axis and three units to the left of the y-axis



69



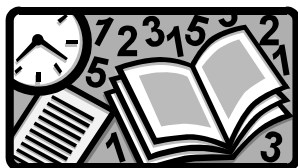
•Plotting Points ---  
In the Cartesian plane

This material is the property of the AK Dept. of Education. It may be used and reproduced for non-profit, educational purposes only after contacting the ACE Distance Learning Center. 11/11



70

# You can do this!



71