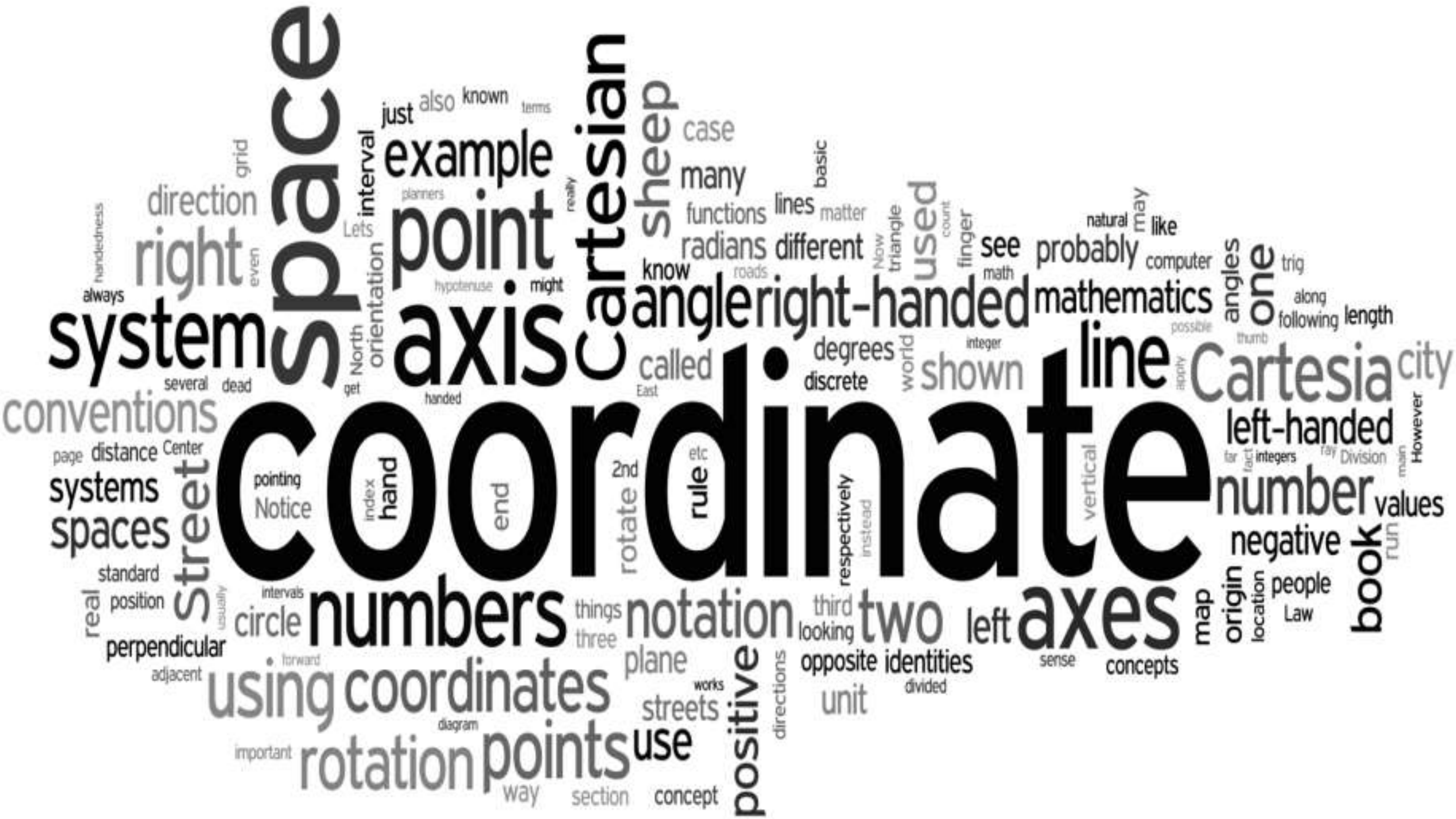

coordinate
space
axis
point
Cartesian
system
angle
right-handed
mathematics
line
Cartesia
city
example
sheep
right
direction
conventions
numbers
notation
two
axes
left
using
coordinates
rotation
points
use
positive
number
left-handed
negative
values
book
systems
spaces
Street
circle
perpendicular
standard
position
real
called
degrees
shown
discrete
radians
different
functions
lines
many
case
used
see
probably
computer
trig
one
angles
length
following
along
natural
like
may
just
also
known
terms
interval
grid
orientation
North
Lets
planners
hypotenuse
might
always
handedness
even
several
dead
get
handed
East
know
roads
matter
basic
triangle
Now
count
finger
math
world
integer
possible
thumb
apply
However
Division
integers
far
fact
main
ray
run
people
Law
origin
location
map
concepts
sense
identities
opposite
divided
unit
third
looking
respectively
instead
directions
vertical
rule
etc
2nd
rotate
end
hand
index
Notice
pointing
page
distance
Center
intervals
usually
forward
adjacent
things
three
plane
works
streets
diagram
important
way
section
concept

fppt.com

fppt.com

Rizal Park, Manila

fppt.com

fppt.com

New York City, USA

fppt.com

fppt.com

Eiffel Tower Paris

fppt.com

fppt.com

Singapore Merlion

fppt.com

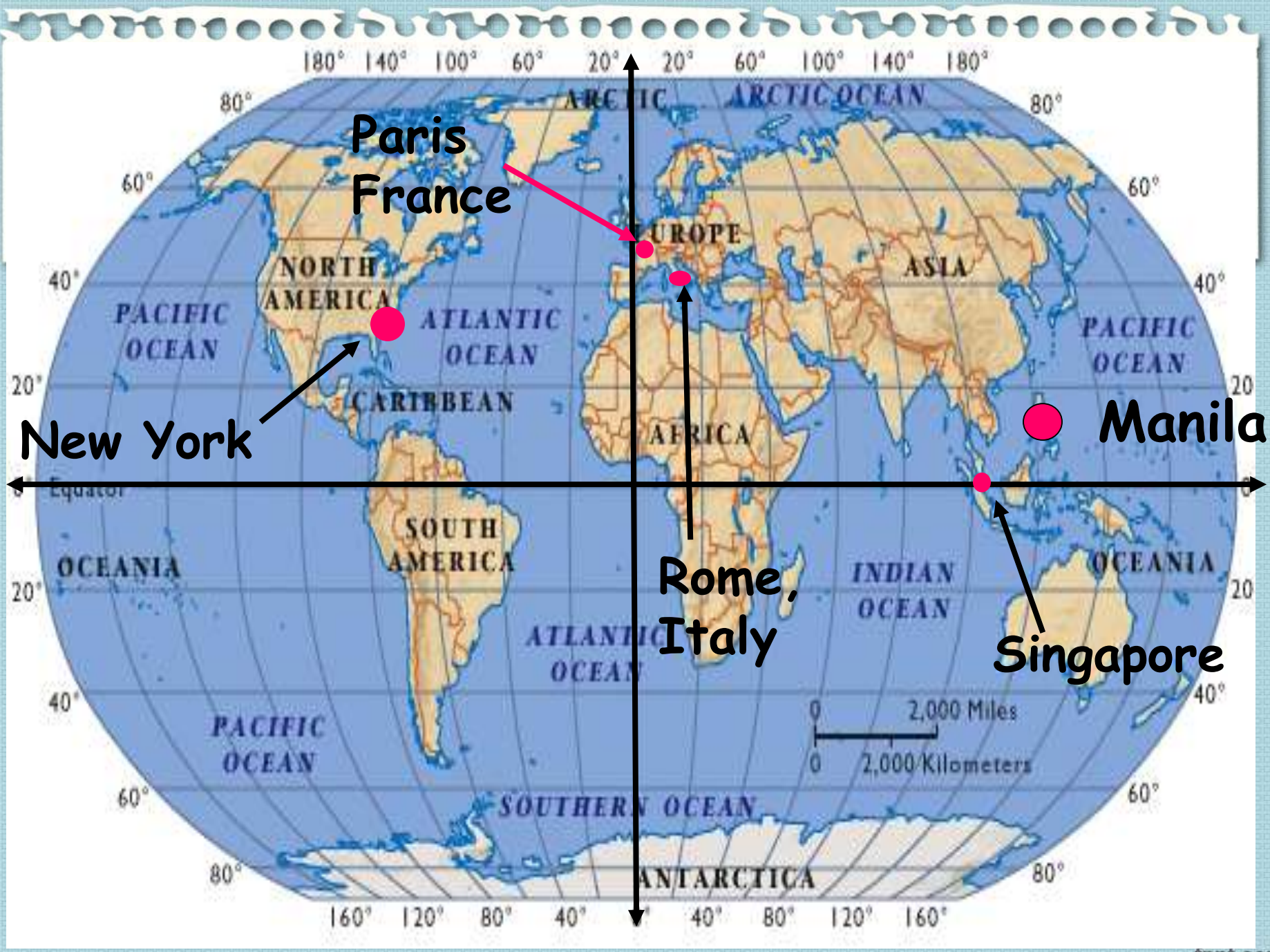
fppt.com

The Basilica of Saint Peter - Rome

fppt.com

LOCATE EACH OF THESE PLACES ON THE MAP

fppt.com


Paris
France
New York
Manila
Rome,
Italy
Singapore
ARCTIC OCEAN
EUROPE
ASIA
NORTH
AMERICA
PACIFIC
OCEAN
ATLANTIC
OCEAN
CARIBBEAN
AFRICA
SOUTH
AMERICA
OCEANIA
INDIAN
OCEAN
SOUTHERN OCEAN
ANTARCTICA
0 2,000 Miles
0 2,000 Kilometers

NOTE:

A place on the map is described according to latitude and longitude. Illustrate how a place on the map can be located using the latitude and longitude, and vice versa.

fppt.com

CARTESIAN COORDINATE PLANE

fppt.com

René Descartes, 1596 - 1650

fppt.com

René Descartes

- Cartesian mathematics was invented by (and is named after) French philosopher, physiologist, and mathematician René Descartes, 1596 - 1650.
- Descartes is famous not just for inventing Cartesian mathematics, which at the time was a stunning unification of algebra and geometry. He is also well-known for making a pretty good stab of answering the question "How do I know something is true?", a question that has kept generations of philosophers happily employed.

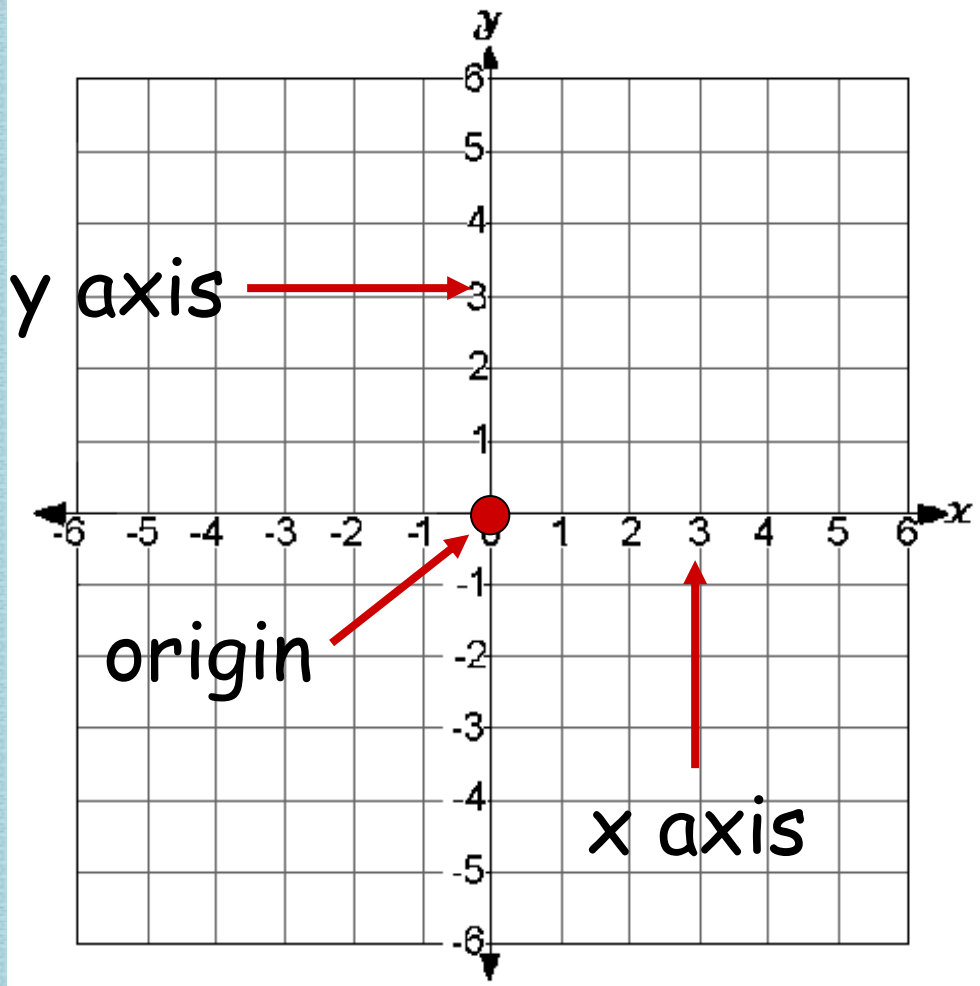
fppt.com

Points and their Coordinates

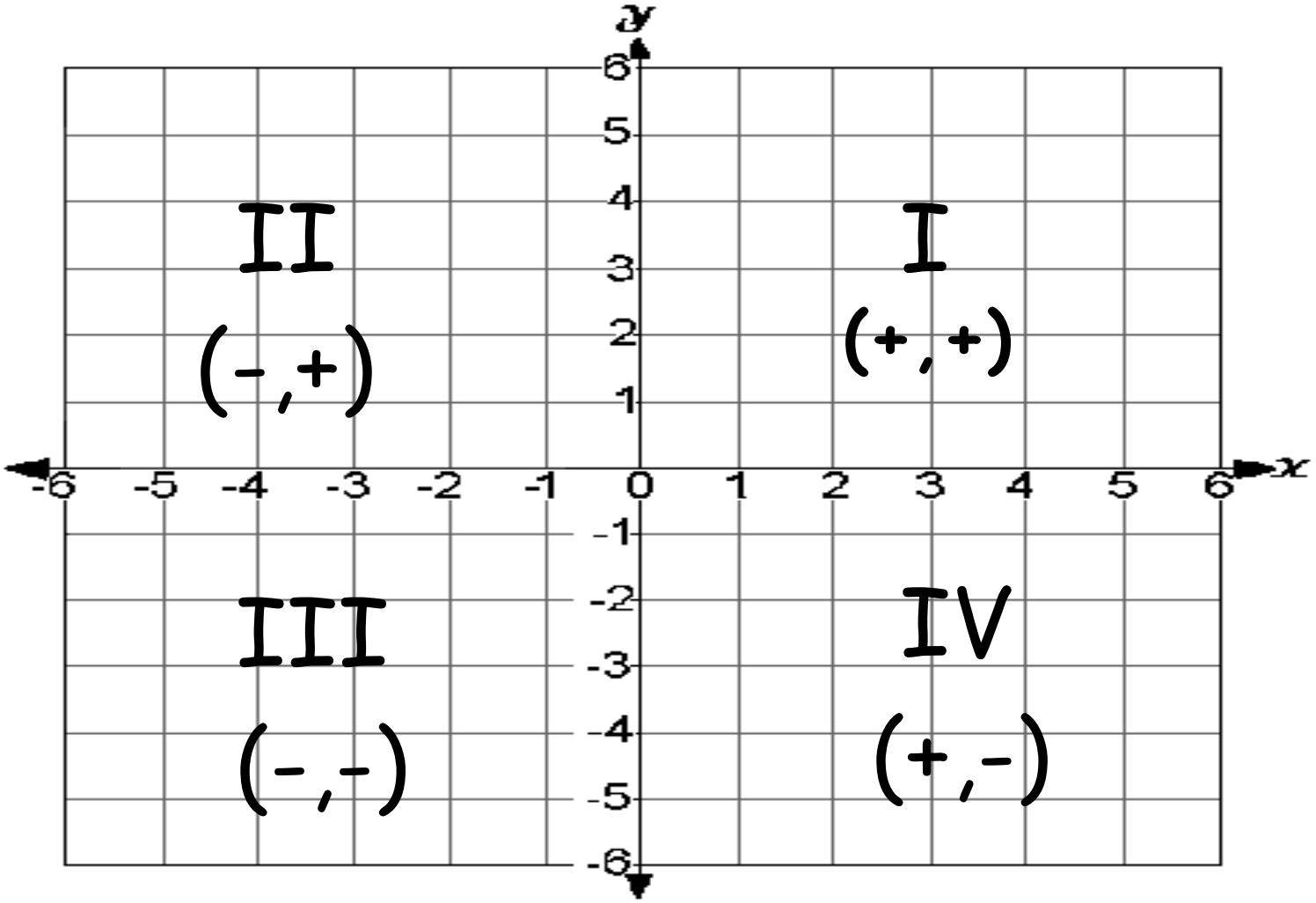
y axis – the vertical line or the axis of the ordinates.

x axis – horizontal line or the axis of the abscissa.

Origin – the intersection of the axes.



The Cartesian Plane is divided into *four quadrants*.



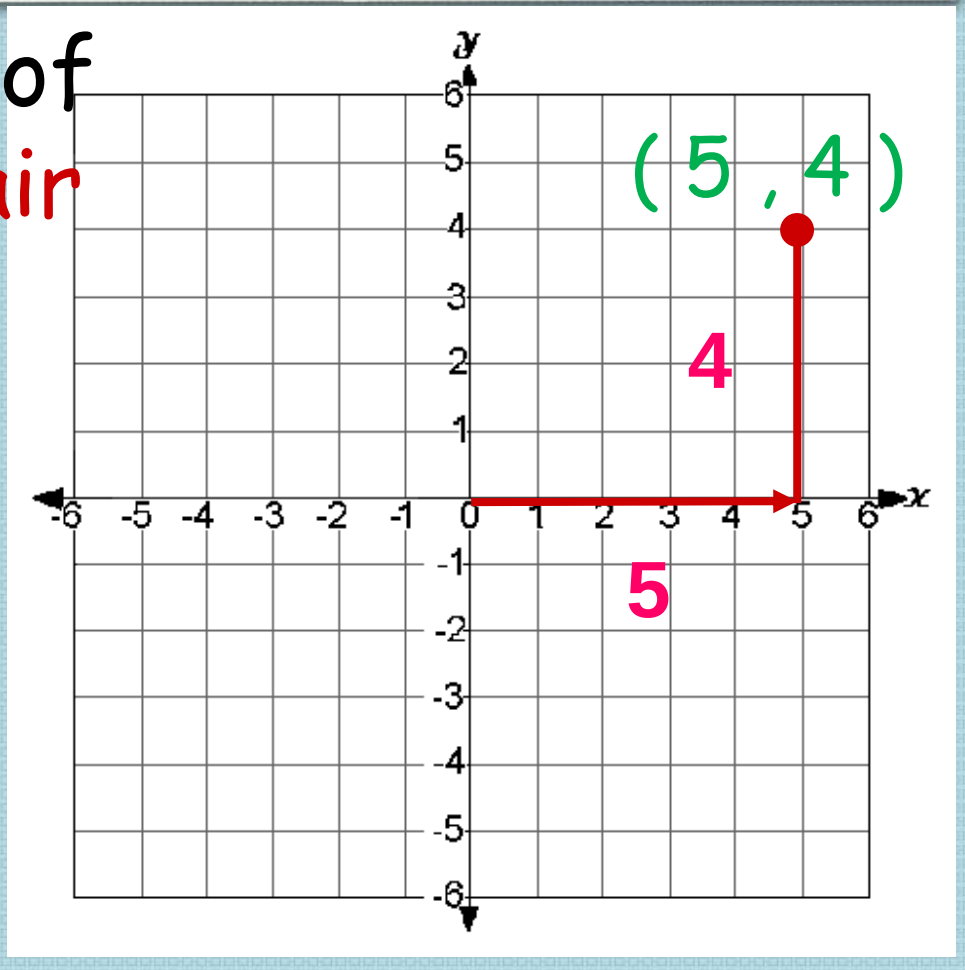
fppt.com

Plotting Points in the Cartesian Plane

(5, 4) is an example of an ordered pair

x coordinate

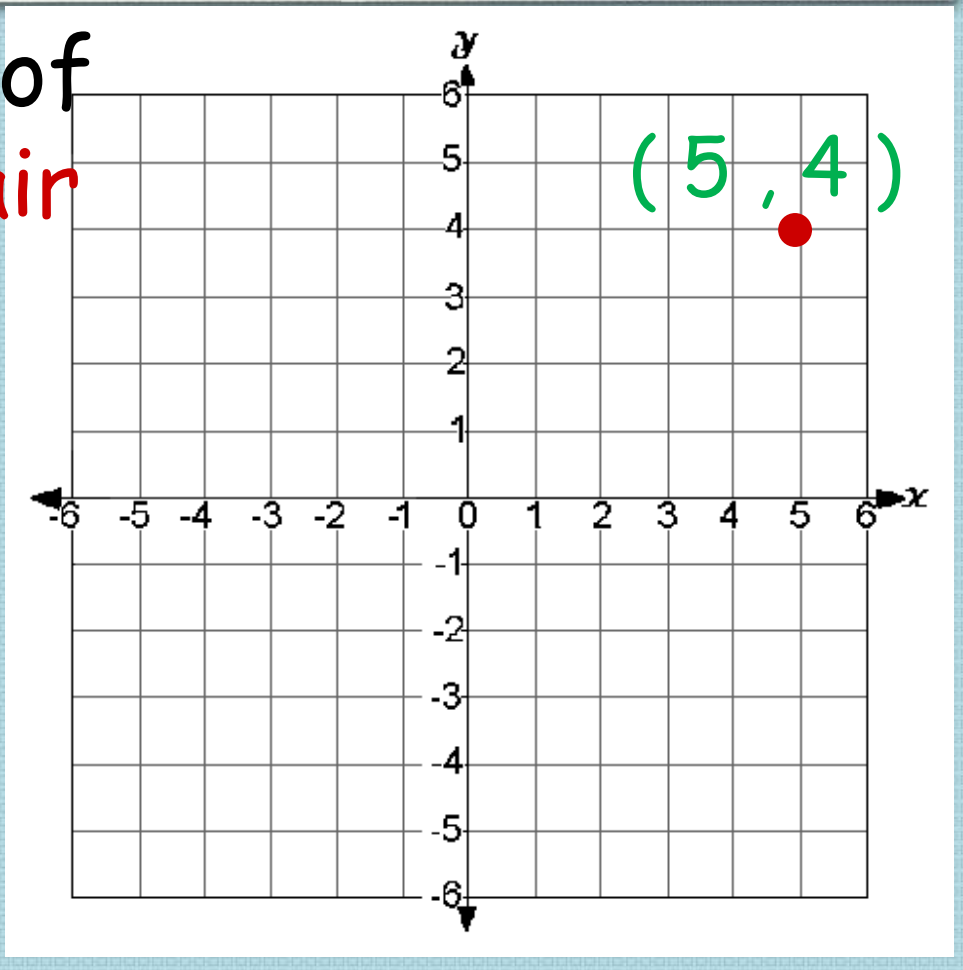
y coordinate



fppt.com

Plotting Points in the Cartesian Plane

(5, 4) is an example of an ordered pair



Quadrant I

fppt.com

Example 1: It is like entering a hotel. Plot (-3,4)

(x , y)

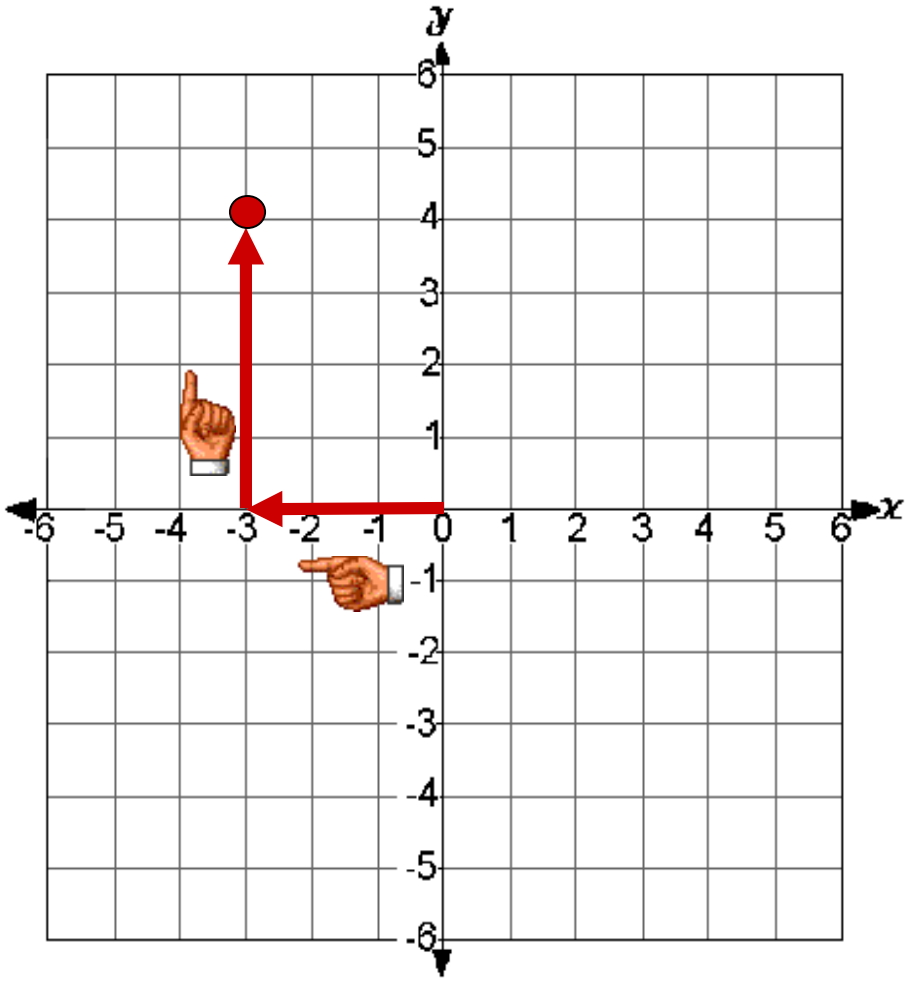
Up the elevator

in the door

(– 3, 4)

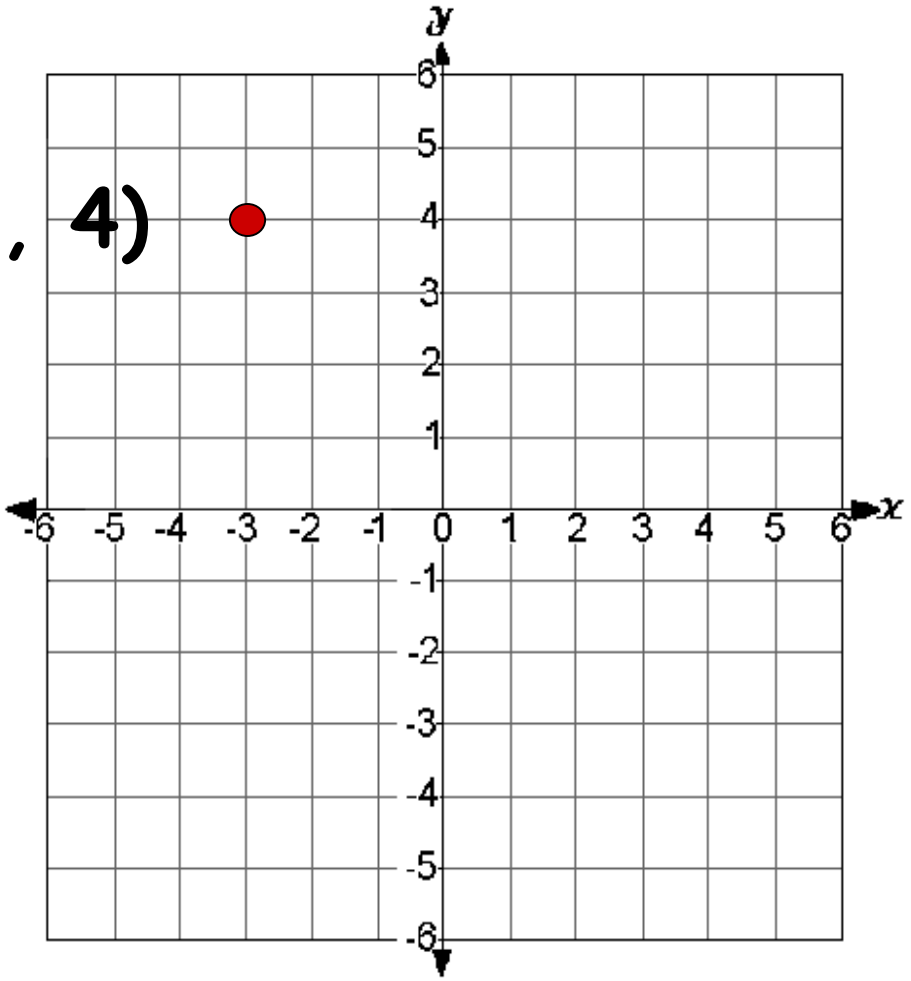
up 4

left 3



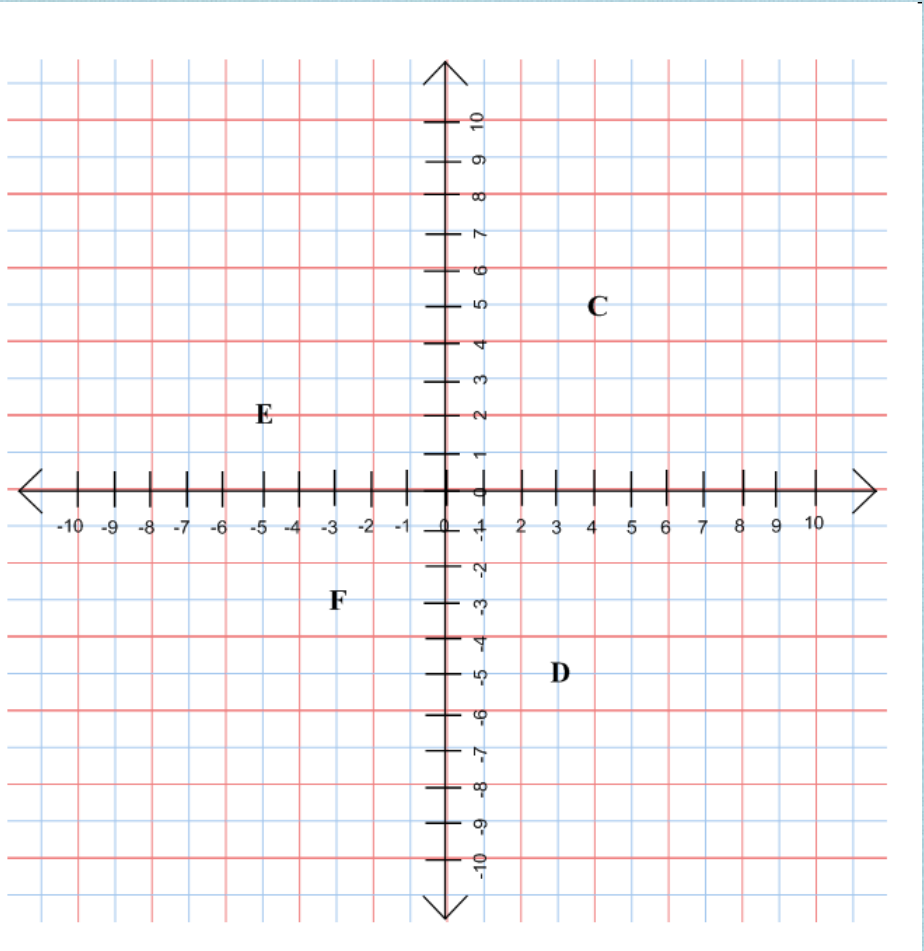
Plot (-3, 4)

(-3 , 4)



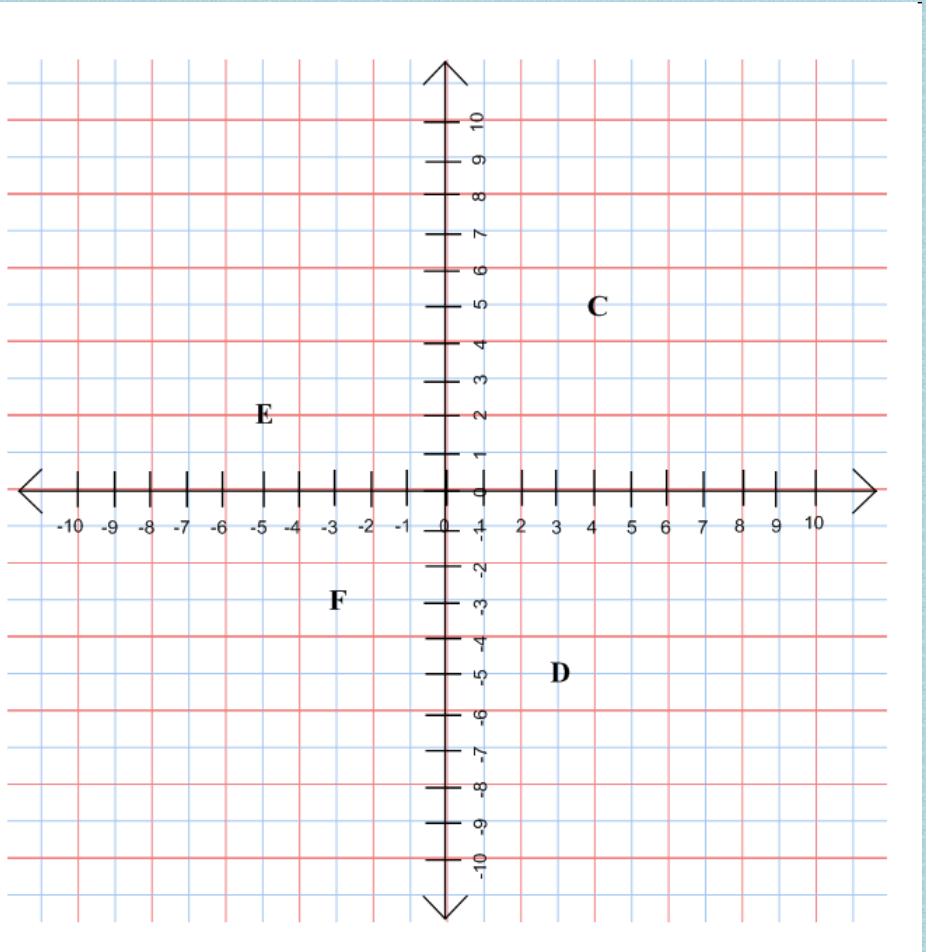
Quadrant II

Example 2. Identify the coordinates of points C, D, E and F. In which quadrant is each point located?



fppt.com

Example 2. Identify the coordinates of points C, D, E and F. In which quadrant is each point located?



SOLUTION

(x, y) - Quadrant

C (4,5) - QI

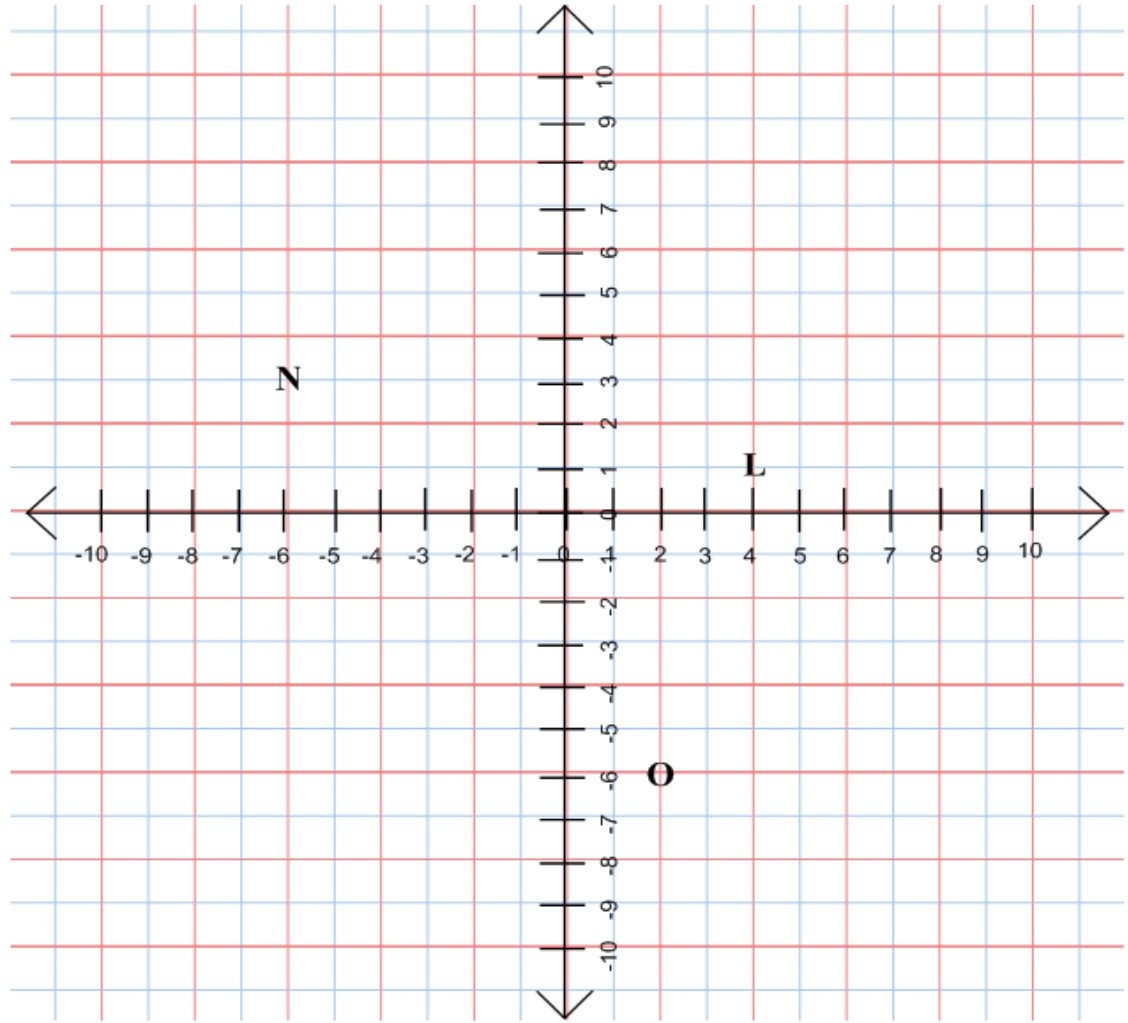
D (3,-5) - QIV

E (-5,2) - QII

F (-3,-3) - QIII

fppt.com

Try This!



Identify the coordinates of points L, N and O. In which quadrant is each point located?

fppt.com

Example 3.Plot the following points.

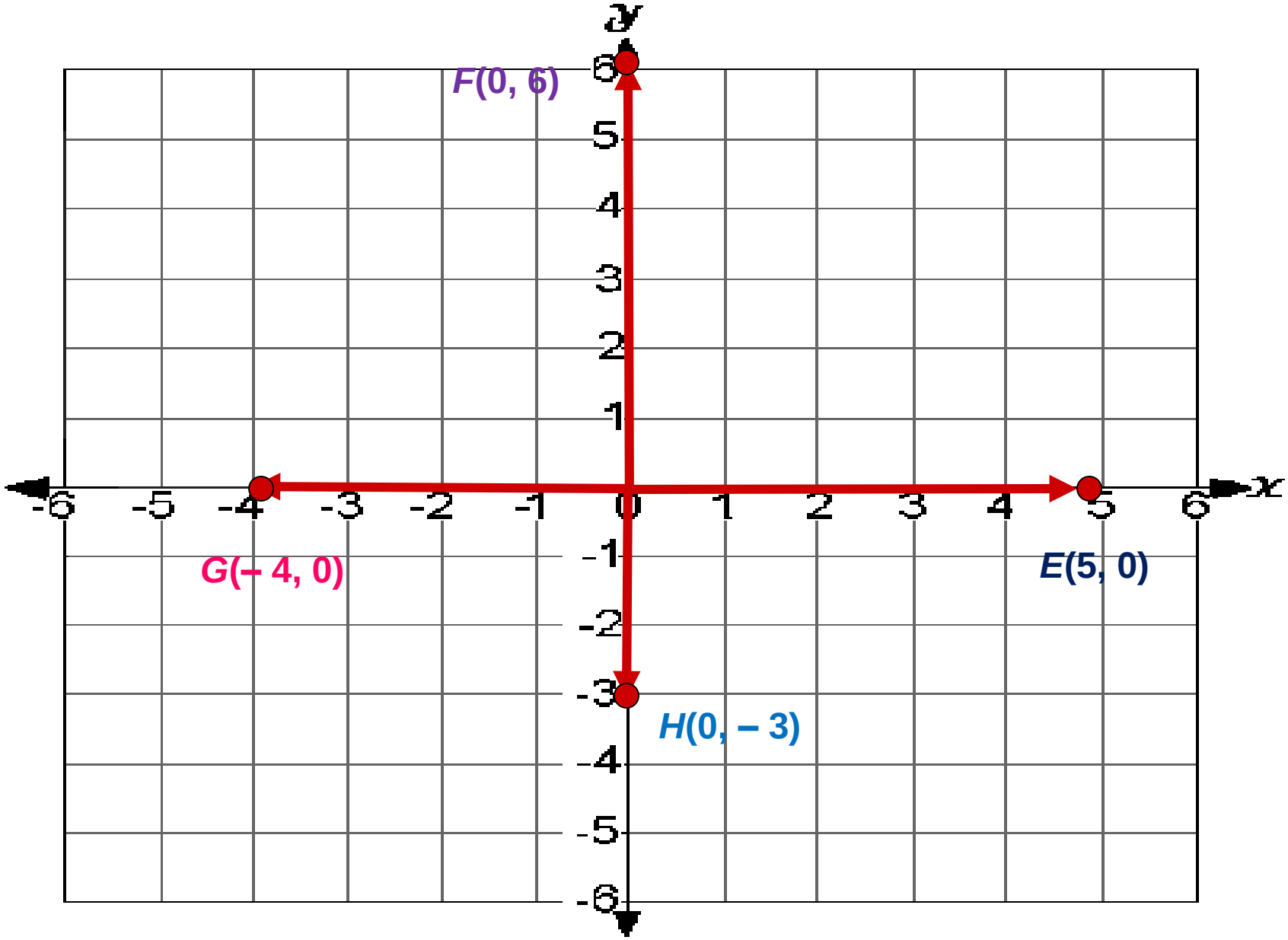
$E(5, 0)$

$F(0, 6)$

$G(-4, 0)$

$H(0, -3)$

fppt.com



fppt.com

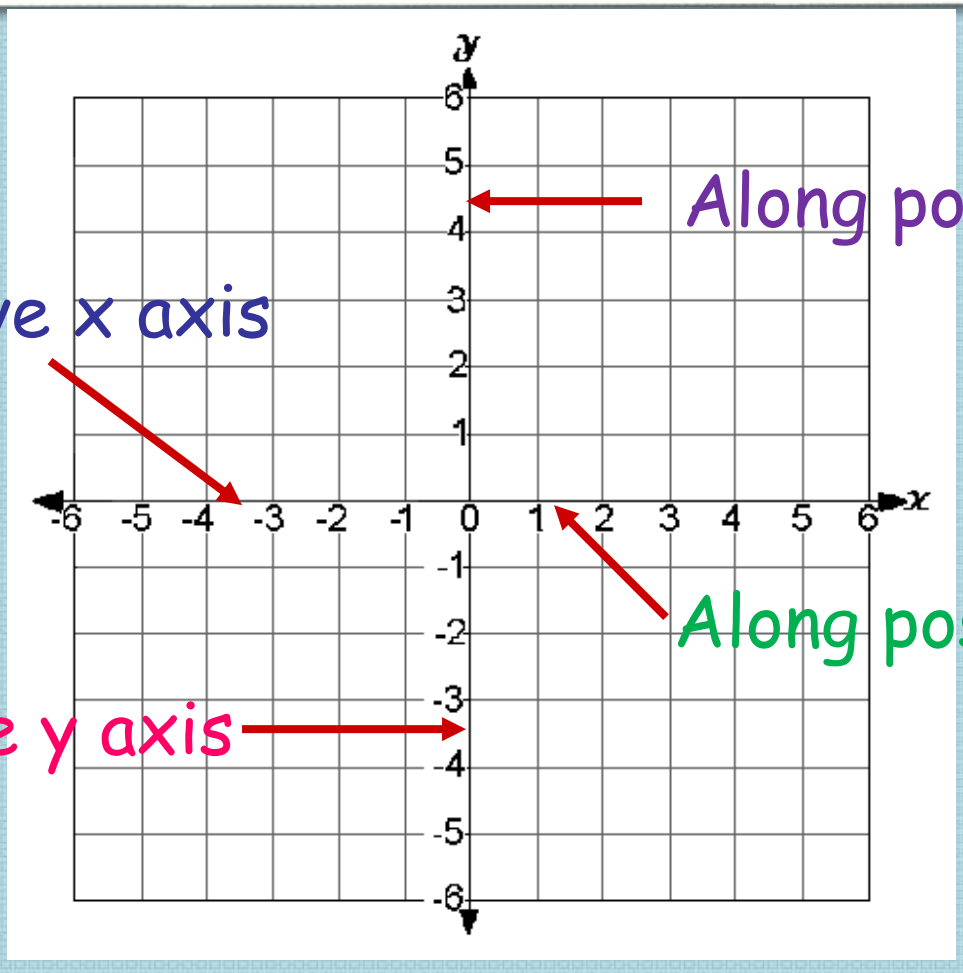
What do you notice about their coordinates?

fppt.com

All points lie on the axes, not in quadrants

fppt.com

The Cartesian Plane is divided into *four axes*.



fppt.com

Activity

In what quadrant or axis is each point located

1.(-2 , -2)
2.(4, -6)
3.(0 , 5)
4.(5, 8)
5.(-4, 5)
6. (4, 0)
7. (.5 , 0)
8. (3 , 4)
9. (4, 7)
10. (- 2.5, 6)

fppt.com

Part II. Write a generalization

1. In which quadrant do points lie if both their abscissa and ordinate is positive?
2. In which quadrant do points lie if their abscissa is zero?
3. In which quadrant do points lie if both their ordinate is a negative real number?
4. In which quadrant do points lie if both their abscissa and ordinate is negative?
5. n which quadrant do points lie if their ordinate is zero?

fppt.com

THANK YOU

fppt.com