

Warm-up

Dec 2

Graph the following equation:

$$y = 3x - 7$$

$$x = 4$$

$$y = 3(4) - 7$$

$$y = 12 - 7$$

$$y = 5$$

$$x = 6$$

$$y = 3(6) - 7$$

$$y = 18 - 7$$

$$y = 11$$

$$x = 5$$

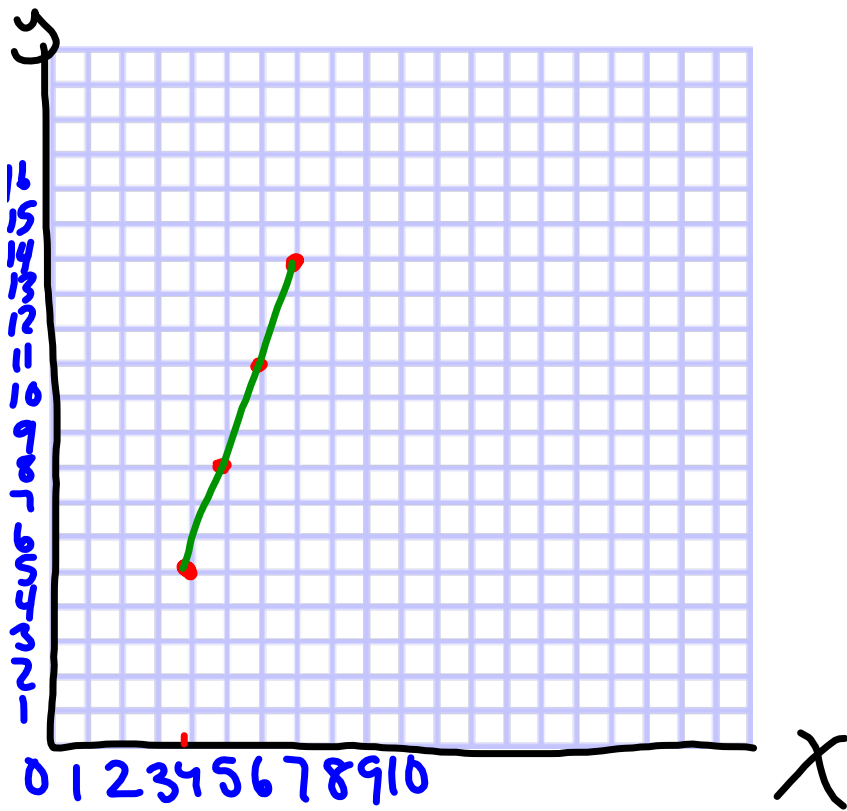
$$y = 3(5) - 7$$

$$y = 15 - 7$$

$$y = 8$$

$$x = 7$$

x	y
4	5
5	8
6	11
7	14



(4, 5)

(5, 8)

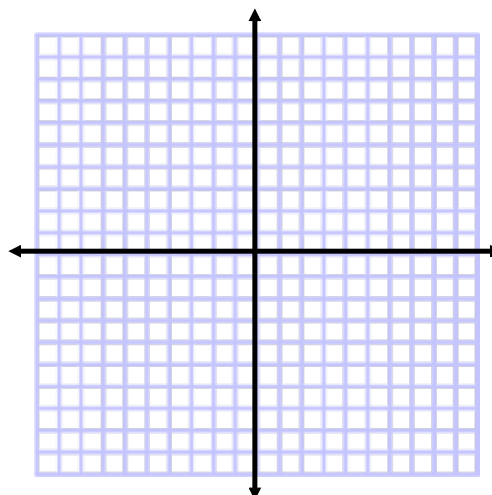
(6, 11)

(7, 14)

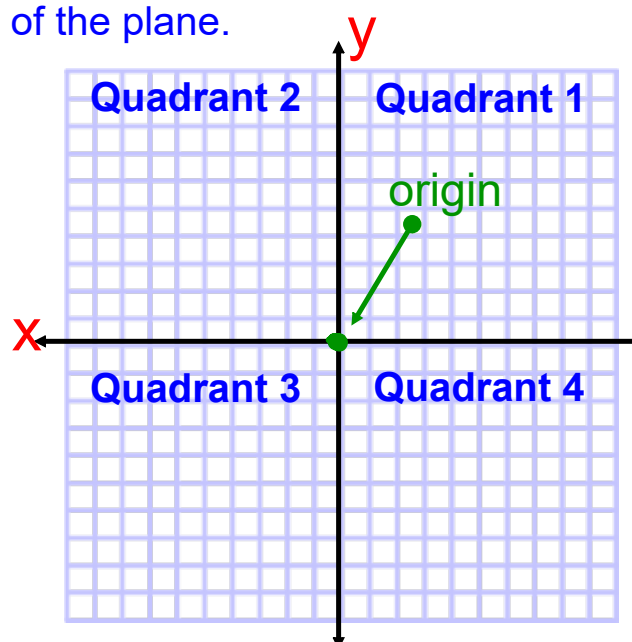
x, y

Cartesian Plane

A Cartesian plane is a two-dimensional coordinate system that uses a grid to map points on a plane.



- **Axes:** Horizontal (x-axis) and vertical (y-axis) lines.
- **Origin:** The point where the x-axis and y-axis meet (0, 0).
- **Quadrants:** The four sections of the plane.



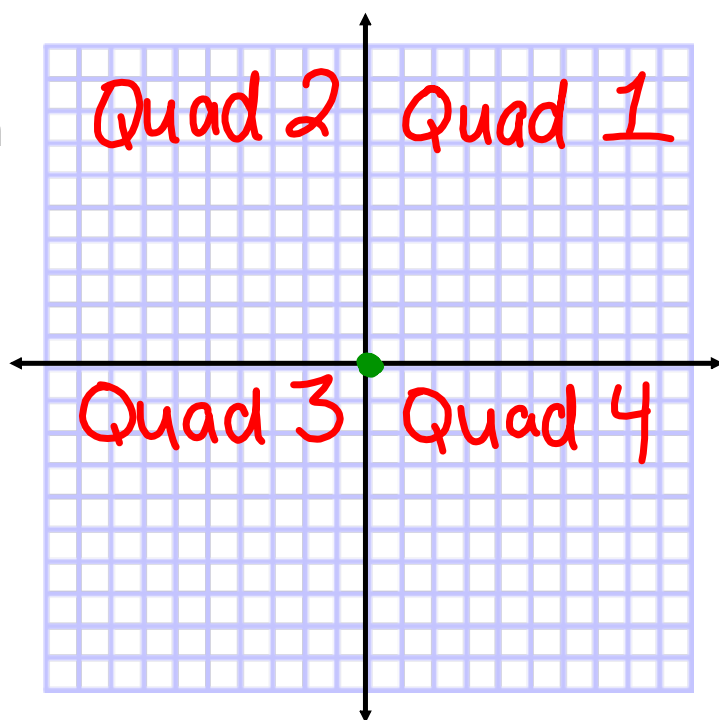
We always plot out coordinates as (x, y)

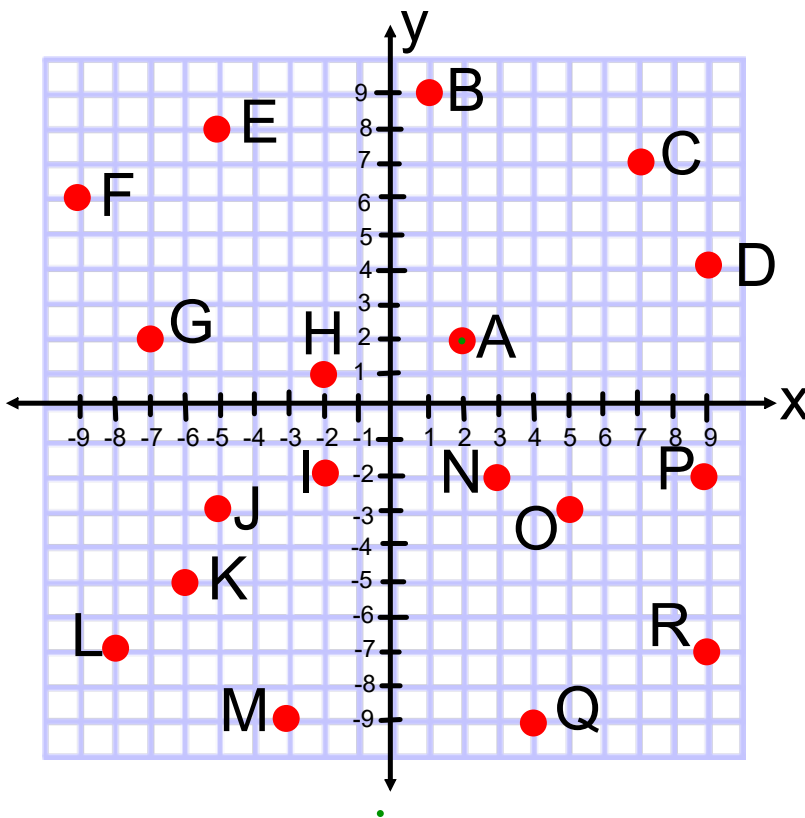
There are negative and positive coordinates:

- Quadrant 1: $(+x, +y)$
- Quadrant 2: $(-x, +y)$
- Quadrant 3: $(-x, -y)$
- Quadrant 4: $(+x, -y)$

1) Tell me where the origin is

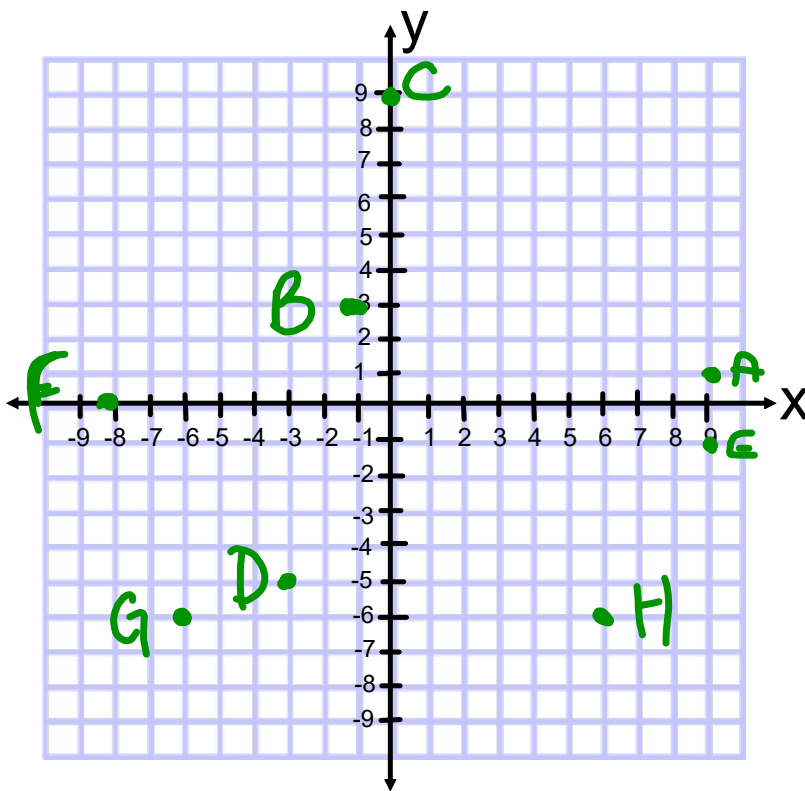
2) Label the 4 quadrants





What are the coordinates for each letter:

- | | | | |
|---|---------|---|----------|
| A | (2, 2) | I | (-2, -2) |
| B | (1, 9) | J | (-5, -3) |
| C | (7, 7) | K | (-6, -5) |
| D | (9, 4) | L | (-8, -7) |
| E | (-5, 8) | M | (-3, -9) |
| F | (-9, 6) | N | (3, -2) |
| G | (-7, 2) | O | (5, -3) |
| H | (-2, 1) | P | (9, -2) |



Place the following
coordinates on the graph

A(9, 1)

B(-1, 3)

C(0, 9)

D(-3, -5)

E(9, -1)

F(-8, 0)

G(-6, -6)

H(6, -6)

Get out your own graph paper

1. Draw the x-axis and y-axis with a ruler.
2. Label the axes as **x** and **y**.
3. Write "(0, 0)" at the origin.
4. Shade and label each quadrant (I, II, III, IV).
5. Mark the following points on the grid & label:
 - > (10, 3)
 - > (-10, 3)
 - > (-10, -3)
 - > (10, -3)

Homework



Attachments

ordered-pairs_coordinates .pdf