



Graphing in four quadrants

Across, then up or down

- Today: plot and name points anywhere on the grid.

Is $(3, -2)$ the same as $(-2, 3)$?

- Same two numbers. Different order.

Turn & talk: same point, or different?

(x, y): across FIRST, then up/down

- The first number always moves you left or right.
- The second number always moves you up or down.

Swap them and you land somewhere else.

The four quadrants

- I = (+, +) top right · II = (−, +) top left
- III = (−, −) bottom left · IV = (+, −) bottom right
- Numbered counter-clockwise from the top right.

Reflections: the surprise

- Across the **x-axis** → the **y** flips: $(5, -3) \rightarrow (5, 3)$
- Across the **y-axis** → the **x** flips: $(-4, 6) \rightarrow (4, 6)$

The axis you fold over is NOT the number that changes.

Your turn

- In which quadrant is $(-3, 5)$?
- Thumbs up when you have it.

Points on an axis

- $(0, -4)$ sits ON the y-axis. $(-3, 0)$ sits ON the x-axis.
- Quadrants are the regions BETWEEN the axes.

A zero coordinate means no quadrant.

Now you

- → In-class practice sheet