



MATH WITH MR DJ

GRADE 6 • GEOMETRY

DRAWING POLYGONS IN THE COORDINATE PLANE

Today's goal: I can draw polygons in the coordinate plane given coordinates for the vertices and use coordinates to graph points in all four quadrants of the coordinate plane.



Tan



Digit



Blaze



Pi



Plot (3, 5)

1 Where does it land?

TURN & TALK

is (3, 5) the same as (5, 3)?



(x, y) – across, THEN up

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



BIG IDEA 2

$(3, 5)$ is Quadrant I; $(5, 3)$ is a different point

- 1 Both are in Quadrant I, but they are not the same place.

REMEMBER

An ordered pair is an ADDRESS. Order matters.



The four quadrants

- 1 Counter-clockwise from top right: I (+, +), II (-, +), III (-, -), IV (+, -).
- 2 A zero coordinate puts you ON an axis — no quadrant at all.



BIG IDEA 4

From points to polygons

- 1 Connect the vertices in the order given, then close back to the first.
- 2 Shared $x \rightarrow$ vertical side. Shared $y \rightarrow$ horizontal side.

REMEMBER

Jumping across out of order gives you a bow-tie, not a rectangle.



Something went wrong here...

THE PROBLEM

Plot $(-2, -6)$ and name its quadrant.

WHAT A STUDENT DID

Confused II and III. Quadrants run counter-clockwise from the top right.

YOUR MISSION

What went wrong? What's the right answer?



Plot $(-2, -6)$ and name its quadrant.

1 Left 2, down 6 $\rightarrow$ Quadrant III.

Answer: **Quadrant III**



YOUR TURN

Whiteboards up!

Pick your pepper!



🌶️ MILD

Plot $(2, 7)$ and name its quadrant.

#1 on your practice sheet



🌶️🌶️ MEDIUM

Plot $(4, -1)$ and name its quadrant.

#3 on your practice sheet



🌶️🌶️🌶️ SPICY

Three vertices of a rectangle are $(-1, -2)$, $(4, -2)$ and $(4, 4)$. Find the fourth vertex and explain how you knew.

#6 on your practice sheet



How's it going?



3 • Got it!

I could teach it



2 • Almost

One more example, please



1 • Not yet

I need some help

NOW YOU!

Practice sheet: everyone does Mild & Medium, then climb the peppers.

Stuck? Look back at Mr DJ's example at the top of the sheet.

Need it again? Watch "Coordinate Plane Explained: Plotting Points and Quadrants" on YouTube @MathWithMrDJ

Brain break: 3 new daily puzzles at puzzles.mathwithmrdj.com

