

Drawing Polygons in the Coordinate Plane

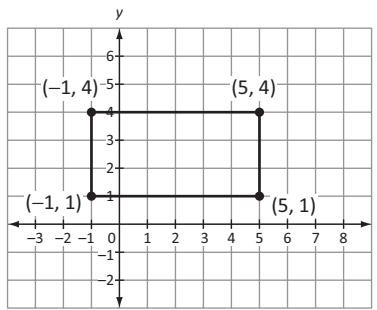
([CCSS.Math.Content.6.G.A.3](#))

Draw **polygons** in the **coordinate plane** by plotting the **vertices** and connecting the points to form the sides of the polygon.

Plot a rectangle with vertices $(-1, 4)$, $(5, 4)$, $(5, 1)$, and $(-1, 1)$:

- $(-1, 4)$ is 1 unit to the left of the **origin** and 4 units above the origin.
- $(5, 4)$ is 5 units to the right of the origin and 4 units above the origin.
- $(5, 1)$ is 5 units to the right of the origin and 1 unit above the origin.
- $(-1, 1)$ is 1 unit to the left of the origin and 1 unit above the origin.

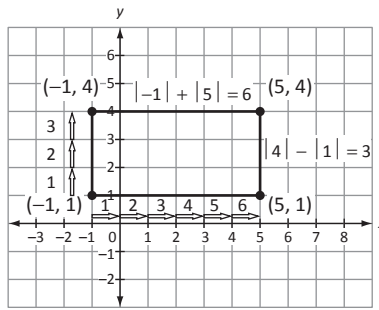
Connect the points with line segments.



Find the length of a side of a polygon by counting the grid squares between vertices or by comparing the coordinates of the vertices.

- If the vertices have the same y -coordinate, the side is horizontal and its length is the distance between the x -coordinates of the vertices.
- If the vertices have the same x -coordinate, the side is vertical and its length is the distance between the y -coordinates of the vertices.





If your students...

Plot points incorrectly:

WATCH: Locate a Point on the Coordinate Plane

<https://www.opened.com/video/locate-a-point-on-the-coordinate-plane/412528>

Draw polygons incorrectly:

WATCH: Draw Polygons Using Coordinates as Vertices

<https://www.opened.com/video/draw-polygons-using-given-coordinates-as-vertices/180646>

Do not understand how to use coordinates to find the distance between vertices:

WATCH: Find the Distance Between Two Points on the Same Axis

https://learnzillion.com/lesson_plans/7794-find-the-distance-between-two-points-on-the-same-axis#fndtn-lesson

For extra practice with drawing polygons on the coordinate plane:

COMPLETE: Draw Polygons in the Coordinate Plane Given Coordinates

<https://www.opened.com/homework/6-g-3-draw-polygons-in-the-coordinate-plane-given-coordinates/3691617?run=true>

COMPLETE: Drawing Polygons with Coordinates

<https://www.khanacademy.org/math/cc-sixth-grade-math/cc-6th-geometry-topic/cc-6th-polygons-in-the-coordinate-plane/e/drawing-polygons>

COMPLETE: Quadrilateral Problems on the Coordinate Plane

<https://www.khanacademy.org/math/cc-sixth-grade-math/cc-6th-geometry-topic/cc-6th-quadrilaterals-on-plane/e/polygons-in-the-coordinate-plane>

