

Midpoint Formula

Examples & Non-Examples

Example	Example	Non-Example
$(1, 2)$ and $(4, 6)$ $x_1 y_1$ $x_2 y_2$	$(-3, 2)$ and $(5, -4)$ $x_1 y_1$ $x_2 y_2$	$(1, 2)$ and $(4, 6)$ $x_1 x_2$ $y_1 y_2$
$(\frac{1+4}{2}, \frac{2+6}{2})$	$(\frac{-3+5}{2}, \frac{2-4}{2})$	$(\frac{1+2}{2}, \frac{4+6}{2})$

Definition

The **midpoint formula** is a mathematical rule used in Geometry to find the **exact center point between two points** on a coordinate plane.

The **midpoint formula** is:

$$(\frac{x_1+x_2}{2}, \frac{y_1+y_2}{2})$$

What it means:

- (x_1, y_1) and (x_2, y_2) are the coordinates of the two endpoints of a segment.
- The formula gives the coordinates of the point exactly halfway between them — the **midpoint**.

It's like averaging the x-values and the y-values to find the center between the two points.

