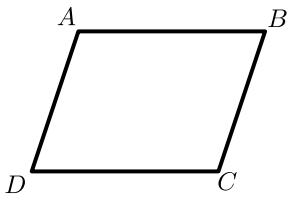
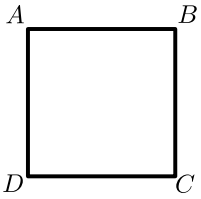
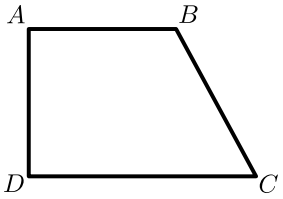
Opposite Sides Parallel and Congruent Theorem

Examples & Non-Examples

Example	Example	Non-Example
$ABCD$ is a parallelogram.  *Since ABCD is a parallelogram, AB and CD are parallel and congruent, and AD and BC are also parallel and congruent.*	$ABCD$ is a square.  *Since ABCD is a square, which is a parallelogram, AB and CD are parallel and congruent, and AD and BC are also parallel and congruent.*	 *ABCD is not a parallelogram, so opposite sides are not guaranteed to be parallel and congruent.*

Statement

If a quadrilateral is a parallelogram, then both pairs of opposite sides are parallel and congruent.

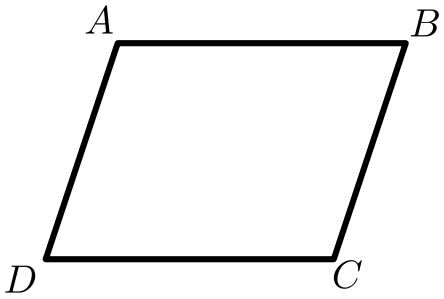
In simple terms:

In a parallelogram, opposite sides are parallel and equal in length.

Example:

If $ABCD$ is a parallelogram, then

- $AB||CD$ and $AB \cong CD$
- $BC||AD$ and $BC \cong AD$



Why It Matters:

This theorem helps you prove sides are equal or parallel once you know a figure is a parallelogram.