

PROVING QUADRILATERALS & PARALLELOGRAMS

QUADRILATERAL	PROVE:
PARALLELOGRAM	<ul style="list-style-type: none"> Both pairs of opp. sides are parallel (definition) Both pairs of opp. sides are congruent One pair of opp. sides are parallel and congruent Diagonals bisect each other
RECTANGLE	<ul style="list-style-type: none"> Both pairs of opp. sides are congruent and all for angles are right angles (definition) <p>Or...first prove it's a parallelogram, and then prove...</p> <ul style="list-style-type: none"> The diagonals are congruent Two consecutive sides are perpendicular
RHOMBUS	<ul style="list-style-type: none"> All four sides are congruent (definition) <p>Or...first prove it's a parallelogram, and then prove...</p> <ul style="list-style-type: none"> The diagonals are perpendicular
SQUARE	<ul style="list-style-type: none"> All four angles are right angles and all four sides are congruent (definition) <p>Or...prove it's a rectangle AND a rhombus</p>
TRAPEZOID	<ul style="list-style-type: none"> Only one pair of sides are parallel (definition)
ISOSCELES TRAPEZOID	<p>Prove it's a trapezoid AND...</p> <ul style="list-style-type: none"> The non-parallel sides are congruent The diagonals are congruent
KITE	<ul style="list-style-type: none"> Two pairs of consecutive sides are congruent and the opp. sides are not congruent (definition)

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- ❖ Definition of Parallelogram
 - A quadrilateral with both pairs of opp. sides parallel
- ❖ Chapter 6: Commonly Used Reasons in Proofs
 - If you're GIVEN a parallelogram:
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 - Both pairs of opp. \angle s of a ||ogram are \cong
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Parallel Lines:

- ❖ Given: \parallel lines
 - Alternate interior angles are \cong
- ❖ Prove: \parallel lines
 - Converse of Alternate Interior Angles Theorem

||ogram – Schultz's abbreviation for parallelogram

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