

Angles formed by Parallel lines:

<u>Corresponding Angles</u>	If two parallel lines are cut by a transversal, then the pairs of corresponding angles are congruent.
<u>Corresponding Angles Converse</u>	If two lines are cut by a transversal and the corresponding angles are congruent, the lines are parallel .
<u>Alternate Interior Angles</u>	If two parallel lines are cut by a transversal, then the alternate interior angles are congruent.
<u>Alternate Exterior Angles</u>	If two parallel lines are cut by a transversal, then the alternate exterior angles are congruent.
<u>Interiors on Same Side</u>	If two parallel lines are cut by a transversal, the interior angles on the same side of the transversal are supplementary.
<u>Alternate Interior Angles Converse</u>	If two lines are cut by a transversal and the alternate interior angles are congruent, the lines are parallel .
<u>Alternate Exterior Angles Converse</u>	If two lines are cut by a transversal and the alternate exterior angles are congruent, the lines are parallel .
<u>Interiors on Same Side Converse</u>	If two lines are cut by a transversal and the interior angles on the same side of the transversal are supplementary, the lines are parallel .

Quadrilaterals:

<u>Parallelograms</u>	<u>About Sides</u> -	<ul style="list-style-type: none"> * If a quadrilateral is a parallelogram, the opposite sides are parallel. * If a quadrilateral is a parallelogram, the opposite sides are congruent.
	<u>About Angles</u>	<ul style="list-style-type: none"> * If a quadrilateral is a parallelogram, the opposite angles are congruent. * If a quadrilateral is a parallelogram, the consecutive angles are supplementary.
	<u>About Diagonals</u>	<ul style="list-style-type: none"> * If a quadrilateral is a parallelogram, the diagonals bisect each other. * If a quadrilateral is a parallelogram, the diagonals form two congruent triangles.
<u>Parallelogram Converses</u>	<u>About Sides</u> -	<ul style="list-style-type: none"> * If both pairs of opposite sides of a quadrilateral are parallel, the quadrilateral is a parallelogram. * If both pairs of opposite sides of a quadrilateral are congruent, the quadrilateral is a parallelogram.
	<u>About Angles</u>	<ul style="list-style-type: none"> * If both pairs of opposite angles of a quadrilateral are congruent, the quadrilateral is a parallelogram. * If the consecutive angles of a quadrilateral are supplementary, the quadrilateral is a parallelogram.
	<u>About Diagonals</u> -	<ul style="list-style-type: none"> * If the diagonals of a quadrilateral bisect each other, the quadrilateral is a parallelogram. * If the diagonals of a quadrilateral form two congruent triangles, the quadrilateral is a parallelogram.
<u>Parallelogram</u>	If one pair of sides of a quadrilateral is BOTH parallel and congruent, the quadrilateral is a parallelogram.	
<u>Rectangle</u>	If a parallelogram has one right angle it is a rectangle	
	A parallelogram is a rectangle if and only if its diagonals are congruent.	

	A rectangle is a parallelogram with four right angles.
<u>Rhombus</u>	A rhombus is a parallelogram with four congruent sides.
	If a parallelogram has two consecutive sides congruent, it is a rhombus.
	A parallelogram is a rhombus if and only if each diagonal bisects a pair of opposite angles.
	A parallelogram is a rhombus if and only if the diagonals are perpendicular.
<u>Square</u>	A square is a parallelogram with four congruent sides and four right angles.
	A quadrilateral is a square if and only if it is a rhombus and a rectangle.
<u>Trapezoid</u>	A trapezoid is a quadrilateral with exactly one pair of parallel sides.
<u>Isosceles Trapezoid</u>	An isosceles trapezoid is a trapezoid with congruent legs.
	A trapezoid is isosceles if and only if the base angles are congruent
	A trapezoid is isosceles if and only if the diagonals are congruent
	If a trapezoid is isosceles, the opposite angles are supplementary.

Facts about Circles:

<u>Radius</u>	In a circle, a radius perpendicular to a chord bisects the chord and the arc.
	In a circle, a radius that bisects a chord is perpendicular to the chord.
	In a circle, the perpendicular bisector of a chord passes through the center of the circle.
	If a line is tangent to a circle, it is perpendicular to the radius drawn to the point of tangency.
<u>Chords</u>	In a circle, or congruent circles, congruent chords are equidistant from the center. (and converse)
	In a circle, or congruent circles, congruent chords have congruent arcs. (and converse)
	In a circle, parallel chords intercept congruent arcs
	In the same circle, or congruent circles, congruent central angles have congruent chords (and converse)
<u>Tangents</u>	Tangent segments to a circle from the same external point are congruent
<u>Arcs</u>	In the same circle, or congruent circles, congruent central angles have congruent arcs. (and converse)
<u>Angles</u>	An angle inscribed in a semi-circle is a right angle.
	In a circle, inscribed angles that intercept the same arc are congruent.
	The opposite angles in a cyclic quadrilateral are supplementary
	In a circle, or congruent circles, congruent central angles have congruent arcs.