6-1

Polygon Angle Sum Theorum	the sum of the measures of the interior angles of an n-gon is (n-2)180 each vertex, is 260
Corollary to the Polygon Angle Sum theorem	The measure of each interior angle of a regular ngon is (n2)180/n
Polygon Exterior Angle Sum theorem	The sum of the measures of the exterior angles of a polygon, one at each vertex, is 360

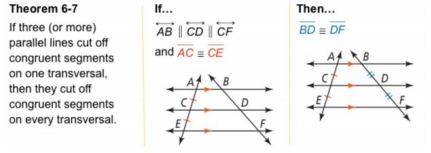
6-2

Parallelogram	quadrilateral with both pairs of opposite sides parallel

In a quadrilateral, opposite sides do not share a vertex and opposite angles do not share a side

Theorem 6-3	If a quadrilateral is a parallelogram, then its opposite sides are congruent
Theorem 6-4	If a quadrilateral is a parallelogram, then its consecutive angles are supplementary
Theorem 6-5	If a quadrilateral is a parallelogram, then its opposite angles are congruent
Theorem 6-6	If a quadrilateral is a parallelogram, then its diagonals bisect each other

Theorem 6-7



6-3

Theorem 6-8	If both pairs of opposite sides of a quadrilateral are congruent, then the quadrilateral is a parallelogram
Theorem 6-9	If an angle of a quadrilateral is supplementary to both its consecutive angles, then the quadrilateral is a parallelogram
Theorem 6-10	If both pairs of opposite angles of a quadrilateral are congruent, then the quadrilateral is a parallelogram
Theorem 6-11	If the diagonals of a quadrilateral bisect each other, then the quadrilateral is a parallelogram
Theorem 6-12	If one pair of opposite sides of a quadrilateral is both congruent and parallel, then the quadrilateral is a parallelogram

6-4

Rhombus	parallelogram with 4 congruent sides
Square	parallelogram with 4 congruent sides and 4 right angles
Rectangle	parallelogram with 4 right angles
Theorem 6-13	If a parallelogram is a rhombus, then its diagonals are perpendicular
Theorem 6-14	If a parallelogram is a rhombus, then each diagonal bisects a pair of opposite angles
Theorem 6-15	If a parallelogram is a rectangle, then its diagonals are congruent

6-5

Theorem 6-16	If the diagonals of a parallelogram are perpendicular, then the parallelogram is a rhombus
Theorem 6-17	If one diagonal of a parallelogram bisects a pair of opposite angles then the parallelogram is a rhombus
Theorem 6-18	If the diagonals of a parallelogram are congruent, then the parallelogram is a rectangle

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Not published yet.
Last updated 23rd May, 2016.