Geometry Info Sheet #27

Properties of Special Quadrilaterals

Properties

The sum of the measures of the interior angles of a quadrilateral (of any type) is 360 degrees.

Parallelograms: 1) Opposite sides of a parallelogram are congruent.
2) Opposite angles of a parallelogram are congruent.
3) Consecutive angles of a parallelogram are supplementary.
4) The diagonals of a parallelogram bisect each other.

Rhombuses: 1) A rhombus is a parallelogram.
2) The diagonals of a rhombus are perpendicular.
3) Each diagonal of a rhombus bisects two angles of the rhombus.

Rectangles: 1) A rectangle is a parallelogram.
2) The diagonals of a rectangle are congruent.

Squares: 1) A square is a rectangle and a rhombus (and, therefore, also a parallelogram).

When studying the above properties, keep in mind that squares inherit the properties of rectangles and rhombuses, both of which inherit the properties of parallelograms.

Isosceles Trapezoids: 1) Each pair of base angles of an isosceles trapezoid is congruent.
2) The diagonals of an isosceles trapezoid are congruent.

Kites: 1) Exactly one pair of opposite angles of a kite is congruent.
2) The diagonals of a kite are perpendicular.
3) Exactly one diagonal of a kite bisects the other diagonal.