

PROPERTIES OF QUADRILATERALS

Properties of Parallelograms

In a parallelogram,

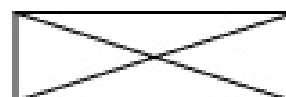
1. The parallel sides are parallel by definition.
2. The opposite sides are congruent.
3. The opposite angles are congruent.
4. The diagonals bisect each other.
5. Any pair of consecutive angles are supplementary.



Properties of Rectangles

In a rectangle,

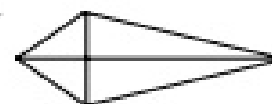
1. All the properties of a parallelogram apply by definition.
2. All angles are right angles.
3. The diagonals are congruent.



Properties of Kites

In a kite,

1. Two disjoint pairs of consecutive sides are congruent by definition.
2. The diagonals are perpendicular.
3. One diagonal is the perpendicular bisector of the other.
4. One of the diagonals bisects a pair of opposite angles.
5. One pair of opposite angles are congruent.



Properties of Rhombuses

In a rhombus,

1. All the properties of a parallelogram apply by definition.
2. Two consecutive sides are congruent by definition.
3. All sides are congruent.
4. The diagonals bisect the angles.
5. The diagonals are perpendicular bisectors of each other.
6. The diagonals divide the rhombus into four congruent right triangles.



Properties of Squares

In a square,

1. All the properties of a rectangle apply by definition.
2. All the properties of a rhombus apply by definition.
3. The diagonals form four isosceles right triangles.



Properties of Isosceles Trapezoids

In an isosceles trapezoid,

1. The legs are congruent by definition.
2. The bases are parallel by definition.
3. The lower base angles are congruent.
4. The upper base angles are congruent.
5. The diagonals are congruent.
6. Any lower base angle is supplementary to any upper base angle.

