

Quadrilateral

1. **Angle sum property of a quadrilateral** states that the sum of measure of the four angles of a quadrilateral is 360° .

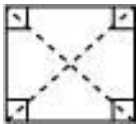
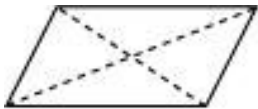
For example, in a $\square ABCD$, $m\angle A + m\angle B + m\angle C + m\angle D = 360^\circ$

2. The angle sum property can be verified:

(i) by measuring the angles of a quadrilateral

(ii) by dividing a quadrilateral into two triangles

- Quadrilaterals are classified according to their properties.

Name of the quadrilateral	Figure	Properties
Rectangle		Opposite sides are equal. 2. Each angle is 90° . 3. Diagonals are equal. 4. Opposite sides are parallel.
Square		1. All sides are equal. 2. Each angle is 90° . 3. Diagonals are equal. 4. Opposite sides are parallel.
Parallelogram		Opposite sides are parallel. Opposite sides are equal. Diagonals are not equal.
Rhombus		Opposite sides are parallel.

		All sides are equal. Diagonals may or may not be equal.
Trapezium		1. One pair of opposite sides is parallel.

- A parallelogram is a rhombus if all sides are equal.
- A parallelogram is a rectangle if all angles are 90° .
- A parallelogram is a square if all sides are equal and all angles are 90° .
- A rhombus is a square if all angles are 90° .
- A Rectangle is a square if all sides are equal.