# Quadrilateral

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

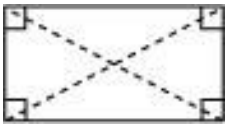
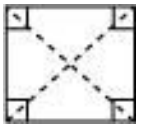
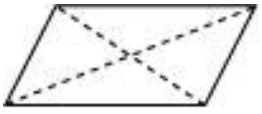
For example, in a □ABCD, $m\angle A + m\angle B + m\angle C + m\angle D = 360°$

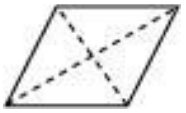
2. The angle sum property can be verified:

(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 |  | 1. Opposite sides are equal.<br>2. Each angle is 90°.<br>3. Diagonals are equal.<br>4. Opposite sides are parallel. |
| Square |  | 1. All sides are equal.<br>2. Each angle is 90°.<br>3. Diagonals are equal.<br>4. Opposite sides are parallel. |
| Parallelogram |  | 1. Opposite sides are parallel.<br>2. Opposite sides are equal.<br>3. Diagonals are not equal. |
| Rhombus | | 1. Opposite sides are parallel. |

| | | |
|---|---|---|
| |  | 2. All sides are equal.<br>3. 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.