Chapter 8

Quadrilaterals

- **Angle Sum Property of a Quadrilateral**
- **Types of Quadrilaterals**
- **Properties of a Parallelogram**
- **The Mid-Point Theorem**

(1) Sum of the angles of a quadrilateral is 360^o

(2) A diagonals of a parallelogram divides it into two congruent triangles.

(3) In a parallelogram

(a) diagonals bisect each other.

(b) opposite angles are equal.

(c) opposite sides are equal

(4) Diagonals of a square bisects each other at right angles and are equal, and vice-versa.

(5) A line through the mid-point of a side of a triangle parallel to another side bisects the third side. (mid-point theorem)

(6) The line through the mid points of sides of a Δ $||$ to third side and half of it.

(7) A quadrilateral is a parallelogram, if

(a) its opposite angles are equal.

(b) its opposite sides are equal.

(c) its diagonals bisect each other.

(d) a pair of opposite sides is equal and parallel.

(8) Diagonals of a rectangle bisect each other and are equal and vice-versa.

(9) Diagonals of a rhombus bisect each other at right angles and vice-versa.

(10) A line through the mid-point of a side of a triangle parallel to another side bisects the third side.

(11) The line-segment joining the mid-points of any two sides of a triangle is parallel to the third side and is half of it.