

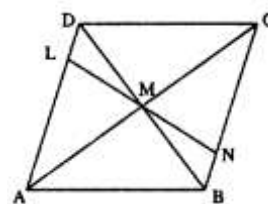
Board – ICSE

Class –VIII

Topic – Special types of Quadrilateral

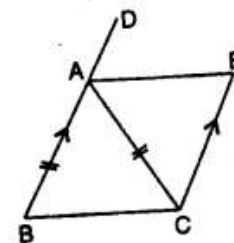
1. Prove: In a parallelogram:
 - a) Opposite sides are equal.
 - b) Opposite angles are equal
 - c) Each diagonal bisects the parallelogram.
2. The Diagonals of a parallelogram bisect each other.
3. Write two properties of Square, Rhombus, Rectangle, and Parallelogram.
4. The adjacent sides of a parallelogram are in ratio 5:3. If its perimeter is 96cm, find the sides of the parallelogram.
5. In parallelogram ABCD, $\angle A = 3$ times $\angle B$. Find all the angles of the parallelogram. In the same parallelogram, if $AB = 5x - 7$ and $CD = 3x + 1$; find the length of CD.

6. One of diagonals of a rhombus is equal to its sides. Find the angles of the rhombus.
7. Given: Parallelogram ABCD in which diagonals AC and BD intersect at M.
 Prove: M is mid-point of LN.

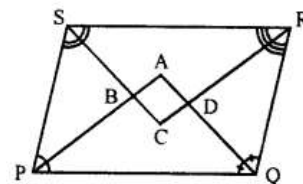


8. In parallelogram ABCD, E is the mid-point of side AB and CE bisects angle BCD. Prove that :

- (i) $AE = AD$,
- (ii) DE bisects $\angle ADC$ and
- (iii) Angle DEC is a right angle



9. In the given figure, $AB \parallel EC$, $AB = AC$ and AE bisects $\angle DAC$. Prove that:
 - (i) $\angle EAC = \angle ACB$
 - (ii) ABCE is a parallelogram



10. In the following diagram, the bisectors of interior angles of the parallelogram PQRS enclose a quadrilateral ABCD. Show that:
 - (i) $\angle PSB + \angle SPB = 90^\circ$
 - (ii) $\angle PBS = 90^\circ$
 - (iii) $\angle ABC = 90^\circ$
 - (iv) $\angle ADC = 90^\circ$
 - (v) $\angle A = 90^\circ$
 - (vi) ABCD is a rectangle.

Answer

4. 30cm and 18 cm
5. $CD = 13$ and Hence $135^\circ, 45^\circ, 135^\circ$ and 45°
6. $\angle A = \angle C = 60^\circ$ and $\angle B = \angle D = 120^\circ$