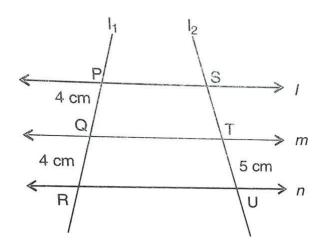
QUADRILATERALS

- 1. A diagonal of a rectangle is inclined to one side of a rectangle at 25°. Find the acute angle between the diagonals.
- 2. ABCD is a rhombus with \angle ABC = 50°, Find \angle ACD.
- 3.PQRS is a parallelogram and line segments PA and RB bisect the angles P and R respectively. Show that PA || BR.
- 4. In a parallelogram, show that the angle bisectors of two adjacent angles intersect at right angles.
- 5. ABC and ADC are two right triangles with common hypotenuse AC. Prove that angle CAD= angle CBD.
- 6. D,E and F are respectively the midpoints of the sides AB, BC and CA of triangle ABC. Prove that by joining these midpoints D, E and F the triangle ABC is divided into four congruent triangles.
- 7. ABCD is a parallelogram. AB is produced to E so that BE= AB. Prove that ED bisects BC.
- 8. ABCD is a square and on the side DC, an equilateral triangle is constructed. Prove that AE = BE and angle $DAE = 15^{\circ}$.
- 9. In quadrilateral ABCD there is a point O inside it such that is OB= OD .Also, AB= AD and BC= DC. Prove that O lies on AC.

10. In the given figure, l,m, n are three parallel lines. l_1 and l_2 are two transversals such that PQ = 4cm = QR, If TU= 5cm find ST.



- 11. Show that the quadrilateral formed by joining the midpoints of consecutive sides of a square is also a square.
- 12.Two Parallel Lines I and m are intersected by a transversal P show that quadrilateral formed by bisector of interior angles is a rectangle.
- 13. If the diagonals of a parallelogram are equal, then show that it is a rectangle.
- 14. ABCD is a quadrilateral in which AB| DC and AD= BC . Prove that angle A = angle B and angle C = angle D
- 15. PQRS is a trapezium with PQ I I RS. M and N are mid-points of diagonals PR and QS. Prove that :

(a) MN II PQ II RS (b) MN =
$$\frac{1}{2}$$
 (PQ- SR)