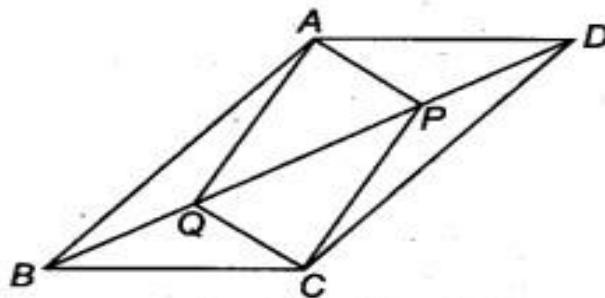


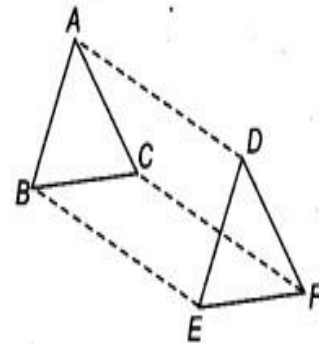
QUADRILATERAL TEST -1

1. ABCD is a rhombus. Show that diagonal AC bisects $\angle A$ as well as $\angle C$ and diagonal BD bisects $\angle B$ as well as $\angle D$.
2. The angles A, B,C,D of a quadrilateral are in the ratio of 2:4:5:7. Find the measure of these angles. What type of quadrilateral is it? Give reasons
3. ABCD is a quadrilateral in which P, Q,R, S are the midpoints of the sides AB, BC, CD, and DA respectively. Show that PQRS is a parallelogram
4. In parallelogram ABCD, two points P and Q are taken on diagonal BD such that DP = BQ (see figure). Show that

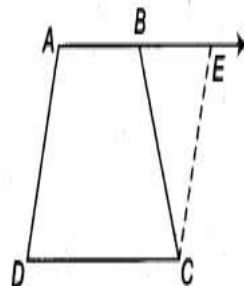


- (i) $\triangle APD \cong \triangle CQB$ (ii) $AP = CQ$
 (iii) $\triangle AQB \cong \triangle CPD$ (iv) $AQ = CP$
 (v) **$APCQ$ is a parallelogram.**

5. In $\triangle ABC$ and $\triangle DEF$, $AB = DE$, $AB \parallel DE$, $BC = EF$ and $BC \parallel EF$. Vertices A, B and C are joined to vertices D, E and F, respectively (see figure). Show that
 - i. quadrilateral ABED is a parallelogram
 - ii. quadrilateral BEFC is a parallelogram
 - iii. $AD \parallel CF$ and $AD = CF$
 - iv. quadrilateral ACFD is a parallelogram
 - v. $AC = DF$
 - vi. $\triangle ABC \cong \triangle DEF$

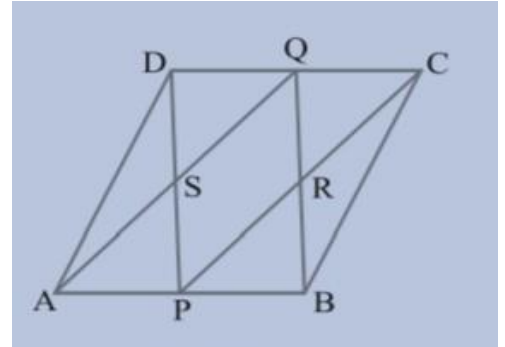


6. ABCD is a trapezium in which $AB \parallel CD$ and $AD = BC$ (see figure). Show that
 - i. $\angle A = \angle B$
 - ii. $\angle C = \angle D$
 - iii. $\triangle ABC \cong \triangle BAD$
 - iv. diagonal $AC =$ diagonal BD

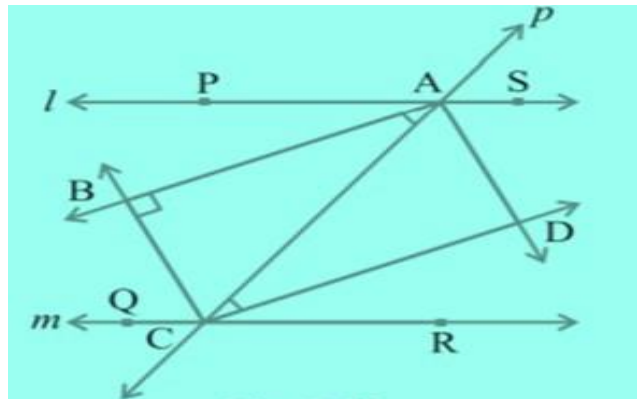


7. l , m and n are three parallel lines intersected by transversals p and q such that l , m and n cut off equal intercepts AB and BC on p (see fig. 8.28). Show that l , m and n cut off equal intercepts DE and EF on q also.

8. $ABCD$ is a parallelogram in which P and Q are mid-points of opposite sides AB and CD (see fig.) If AQ intersects DP at S and BQ intersects CP at R , show that:
- $APCQ$ is a parallelogram.
 - $DPBQ$ is a parallelogram.
 - $PSQR$ is a parallelogram.



9. Two parallel lines l and m are intersected by a transversal p (see fig). Show that the quadrilateral formed by the bisectors of interior angles is a rectangle.



10. Prove that the diagonals of a square are equal and perpendicular to each other.