CONGRUENCY OF TRIANGLE (IX)

1. Line segment AB is parallel to another line – segment CD. O is the mid – point of AD. Show that (i) Δ AOB ≅ Δ DOC. (ii) O is midpoint of BC.
2. Line l is the bisector of an angle <A and <B is any point on l. BP and BQ are perpendiculars from B to the arms of <A. Show that (i) Δ APB ≅ ΔAQB (ii) BP = BQ.
3. In right triangle ABC, right angle at C, M is the midpoint of hypotenuse AB. C is joined to M and produced to a point D such that DM = CM. Point P is joined to point B. Show that (i) CM = ½ AB. (ii) Δ DBC ≅ Δ ACB.
4. In an isosceles triangle ABC with AB = AC, D and E are point on BC. Such that BE = CD. Show that AD = AE.
5. In ΔABC, AD is the perpendicular bisector of BC. Show that ΔABC is an isosceles triangle in which AB = AC.
6. BE and CF are two equal altitudes of a triangle ABC. Using RHS congruency rule prove ΔABC is isosceles Δ.
7. P is a point equidistant from two lines l and m intersecting at point A. Show that the line AP bisects the angle.

8. Show that in right angle triangle, the hypotenuse is the longest side.
9. <B < <A and <C < <D show that Ad<BC.

10. AB and CD are respectively the smallest and longest sides of quadrilateral ABCD. Show that <A < <C and <B > <D.

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