Lines and Angles

1) If the measure of an angle is 62°,
what is the measure of its complementary angle?

2) Two complementary angles are in the ratio 4:5. Find the angles.

3) AB is a line segment and line l is its perpendicular bisector. If a point P lies on l, show that P is equidistant from A and B.

4) Line-segment AB is parallel to another line-segment CD. O is the mid-point of AD. Show that (i) ?AOB ? ?DOC (ii) O is also the midpoint of BC.

5) In quadrilateral ACBD, AC = AD and AB bisects ?A Show that ?ABC? ?ABD. What can you say about BC and BD?

6) In an isosceles triangle ABC with AB = AC, D and E are points on BC such that BE = CD (see figure) Show that AD = AE

7) In ?ABC, AD is the perpendicular bisector of BC (See adjacent figure). Show that ?ABC is an isosceles triangle in which AB = AC.

8) In an isosceles triangle ABC, with AB = AC, the bisectors of ? B and ? C intersect each other at O. Join A to O. Show that :
(i) OB = OC (ii) AO bisects ?

9) P is a point equidistant from two lines l and m intersecting at point A (see figure). Show that the line AP bisects the angle between them.

10) BE and CF are two equal altitudes of a triangle ABC. Using RHS congruence rule, prove that the triangle ABC is isosceles