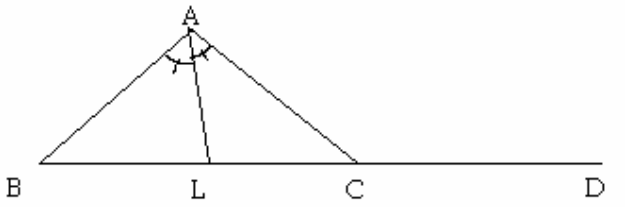
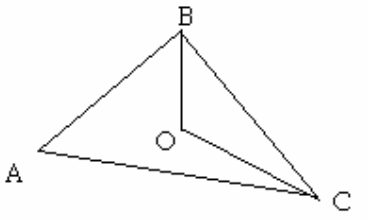
TRIANGLES

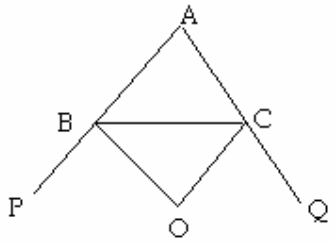
1. The angles of a triangle are in the ratio 2: 3: 7. Find the measure of each angle of the triangle.
2. In Δ ABC, if $2\angle A = 3\angle B = 6\angle C$, find $\angle A$, $\angle B$ and $\angle C$.
3. In Δ ABC, if $\angle A + \angle B = 65°$ and $\angle B + \angle C = 140°$. Find each angle of the triangle.
4. In Δ ABC, $\angle A - \angle B = 33°$ and $\angle B - \angle C = 18°$. Find all angles.
5. The side BC of Δ ABC is produced to D. The bisector of $\angle A$ meets BC in L. Prove that $\angle ABC + \angle ACD = 2\angle ALC$



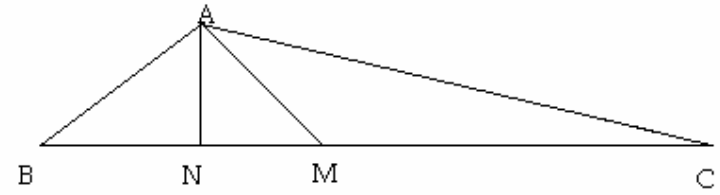
6. In Δ ABC, the bisectors of $\angle B$ and $\angle C$ intersect each other at a point 0. Prove that $\angle BOC = 90° + \frac{1}{2}\angle A$.



7. In Δ ABC, the sides AB and AC are produced to P and Q respectively. Bisectors of $\angle PBC$ and $\angle QCB$ intersect at point 0. Prove that $\angle BOC = 90° - \frac{1}{2}\angle A$.

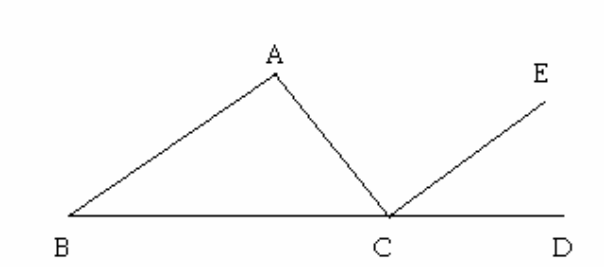


8. In Δ ABC, $\angle B > \angle C$. If AM is the bisector of $\angle BAC$ and $AN \perp BC$, prove that $\angle MAN = \frac{1}{2}(\angle B - \angle C)$



11. Show that the bisectors of the base angles of triangle can never enclose a right angle.

12. In the fig. BC is produced to form ray BD and CE∥BA.
Show that ∠ACD = ∠A + ∠B. Show that ∠A + ∠B + ∠C = 180°



13. In the fig. Δ ABC is isosceles with AB = AC. AE bisects ∠CAD. Prove AE∥BC.