

THE INDIAN SCHOOL
KINGDOM OF BAHRAIN

ASSIGNMENT

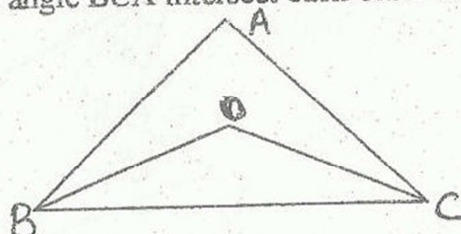
STD: IX

SUBJECT: MATHEMATICS

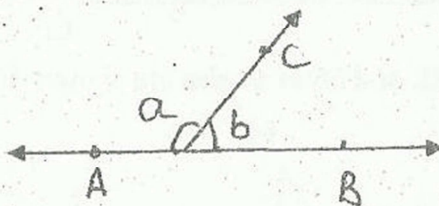
CHAPTER: LINES AND ANGLES

1. Prove that if one angle of a triangle is equal to the sum of the other two angles, the triangle is right angled?

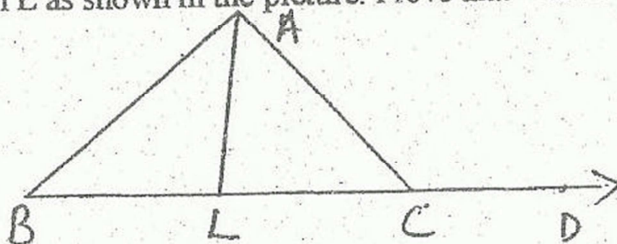
2. In the figure, the bisectors of angle ABC and angle BCA intersect each other the point O. Prove that $\angle BOC = 90 + \frac{1}{2}\angle A$



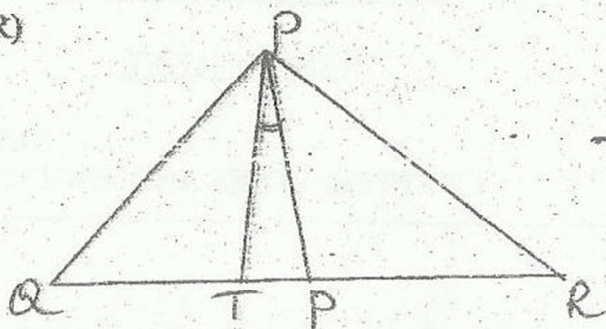
3. In figure, a is greater than by one third of a right angle. Find the values of a and b?



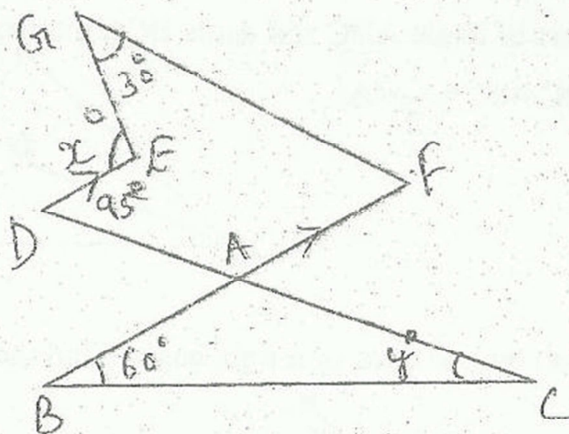
4. Prove that, if two parallel lines are intersected by a transversal, the bisectors of any pair of alternate interior angles are parallel.
5. If two parallel lines are intersected by a transversal, prove that the bisectors of the interior angles on the same side of transversal intersect each other at right angles.
6. A triangle ABC is right angled at A. AL is drawn perpendicular to BC. Prove that $\angle BAL = \angle ACB$
7. Prove that the angle between internal bisector of one base angle and the external bisector of the other base angle of a triangle is equal to one-half of the vertical angle.
8. The side BC of a triangle ABC is produced, such that D is on a ray BC. The bisector of $\angle A$ meets BC in L as shown in the picture. Prove that $\angle ABC + \angle ACD = 2\angle ALC$



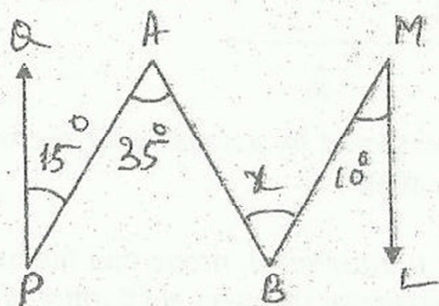
9. In the figure, PS is the bisector of $\angle P$ and PT perpendicular to QR. Show that $\angle TPS = \frac{1}{2}(\angle Q - \angle R)$



10. In the given figure, $DE \parallel AF$, $AD \parallel FG$, find x°, y° ?



11. In the figure, $QP \parallel ML$ and other angles are shown. Find the values of x ?



12. The side BC of a $\triangle ABC$ produced on both sides. Show that the sum of the exterior angles so formed is greater than $\angle A$ by two right angles.