

INTERNATIONAL INDIAN SCHOOL, RIYADH

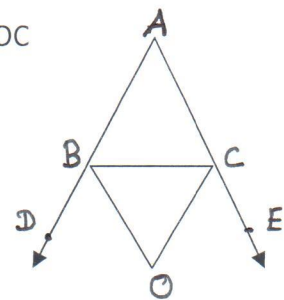
WORKSHEET

SUB: Mathematics

CLASS: IX

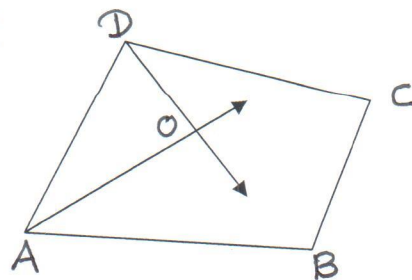
TOPIC: TRIANGLES

1. In the given figure below, BO and CO are bisectors of $\angle DBC$ and $\angle ECB$ respectively, If $\angle BAC = 50^\circ$ and $\angle ABC = 60^\circ$. Then find the measure of $\angle BOC$

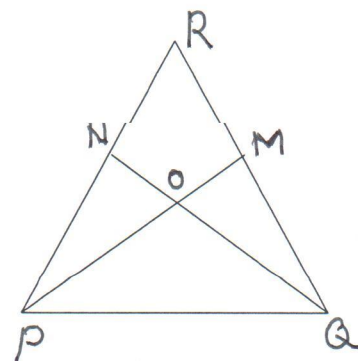


2. P is the point on the bisector of $\angle ABC$. If the line through P, parallel to BA meet AC at Q. Prove that BPQ is an isosceles triangle.

3. In figure, AO and DO are the bisectors of $\angle A$ and $\angle D$ respectively of the Quadrilateral ABCD. Prove that $\angle AOD = \frac{1}{2} [\angle B + \angle C]$

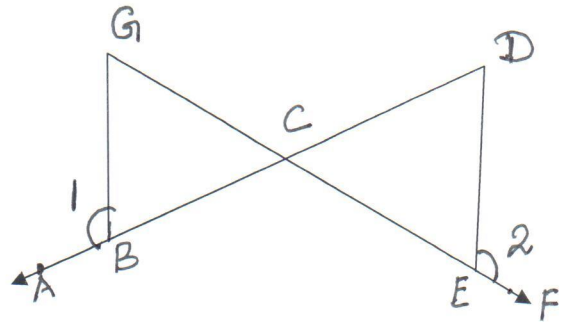


4. In the given figure $\angle QPR = \angle PQR$ and M and N respectively points on the sides QR and PR of ΔPQR . Such that $QM = PN$. Prove that $OP = OQ$, where O is the point of Intersection of PM and QN.



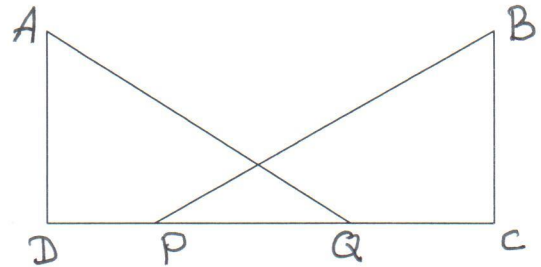
5. In the given figure, $BC = CE$ and $\angle 1 = \angle 2$

Prove that $\triangle GCB \cong \triangle DCE$



6. In the given figure $AD \perp CD$, $BC \perp CD$. If $AQ = BP$ and $DP = CQ$

Prove that $\angle DAQ \cong \angle CBP$



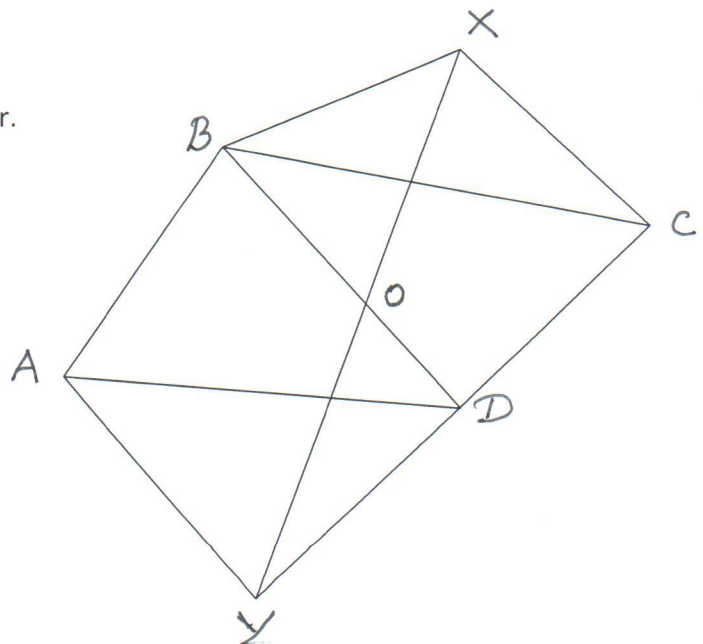
7. If the bisectors of the base angles Q and R of an equilateral triangle PQR meet at S. ST and SM are drawn parallel to the sides PQ and PR.

Then show that $QT = TM = MR$

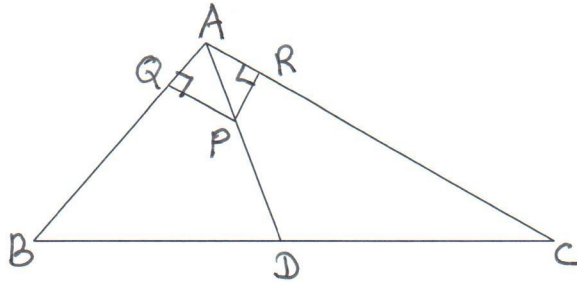
8. ABCD is a parallelogram and triangles BXC and AYD are such that $BX = DY$ and $CX = AY$.

Prove that (a) $BX \parallel DY$

(b) XY and BD bisect each other.

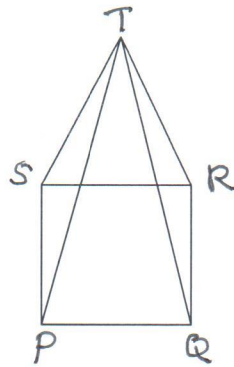


9. In the following figure, AD is the bisector of angle A of triangle ABC. PQ and PR are perpendicular to sides AB and AC respectively. Show that $\Delta PQA = \Delta PRA$ and $PQ = PR$.

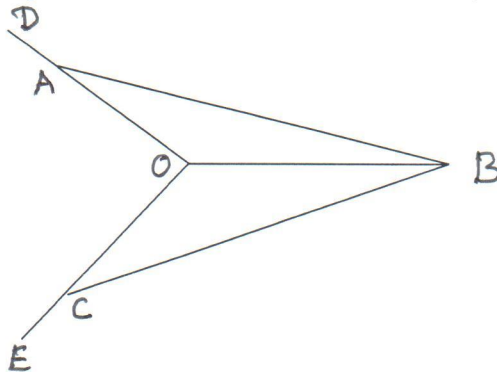


10. In the given figure PQRS is a square and SRT is an equilateral triangle. Prove that :

- i. $\angle PST = \angle QRT$
- ii. $PT = QT$
- iii. $\angle QTR = 15^\circ$



11. In the given figure, $AB = BC$ and $\angle ABO = \angle CBO$, then prove that $\angle DAB = \angle ECB$.

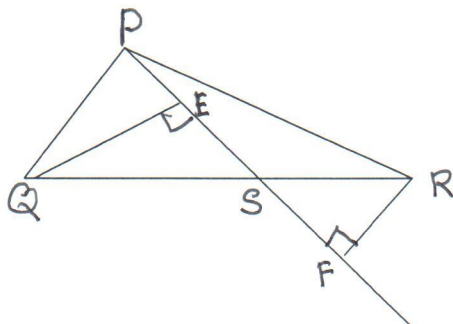


12. Line segment joining the mid-points M and N of parallel sides AB and DC, respectively of a

Trapezium ABCD is perpendicular to both the sides AB and DC .Prove that AD = BC.

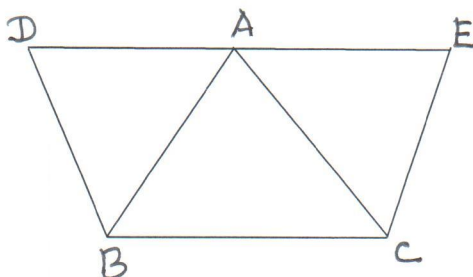
13. In the given figure,PS is median produced up to F and QE and RF are perpendiculars drawn from Q and R.

Prove that $QE = RF$



14. In the given figure, equilateral $\triangle ABD$ and $\triangle ACE$ are drawn on the sides of a $\triangle ABC$.

Prove that $CD = BE$



15. In the given figure, $\triangle XYZ$ and $\triangle PYZ$ are two isosceles triangle on the same base YZ with $XY=XZ$ and

$PY = PZ$. If $\angle P = 120^\circ$ and $\angle XYP = 40^\circ$, then find $\angle YXZ$.

