INTERNATIONAL INDIAN SCHOOL

BURAIDAH

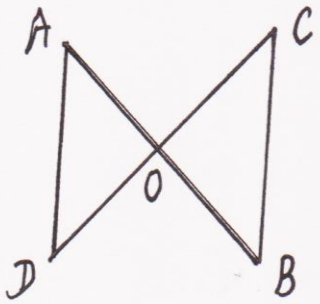
Worksheet For The Academic Year 2024-25

CLASS: IX SUBJECT: Mathematics DATE: 25/06/2024

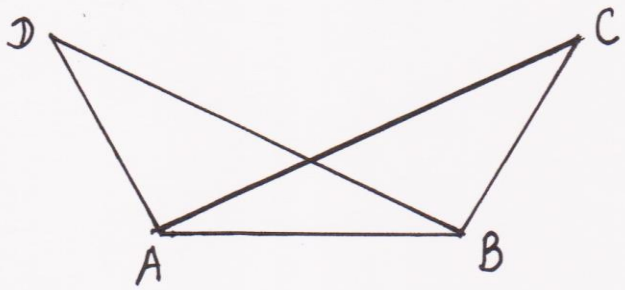
LESSON-7 Triangles

1) Prove that the angles opposite to equal sides of a triangle are equal.

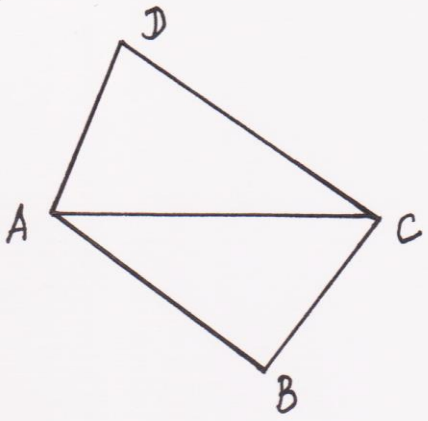
2) Two lines AB and CD intersect at O such that BC is equal and parallel to AD. Prove that AB and CD bisect at O.



3) In the figure, AD = BC and ∟BAD = ∟ABC , Prove that ∟ACB = ∟BDA.



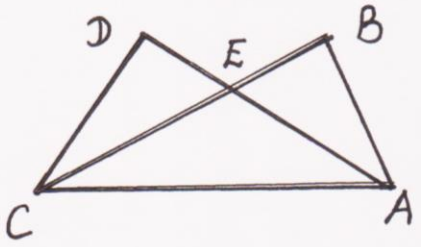
4) In quadrilateral ABCD , ∟BAD & ∟BCD is bisected by the diagonal AC. Prove that BC = CD.



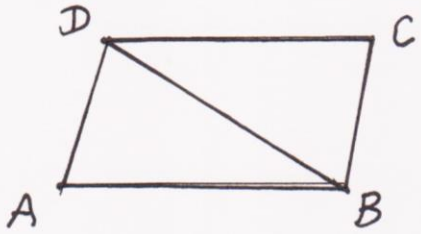
5) ΔABC & ΔDEF are right angled at B and E respectively. If AB = DE and ∟C = ∟F , prove that the two triangles are congruent.

6) Prove that each angle of an equilateral triangle is 60°.

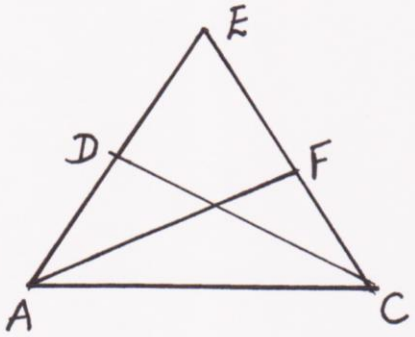
7) In the figure, AB = CD and AD = BC , prove that $\Delta ADC \cong \Delta CBA$.



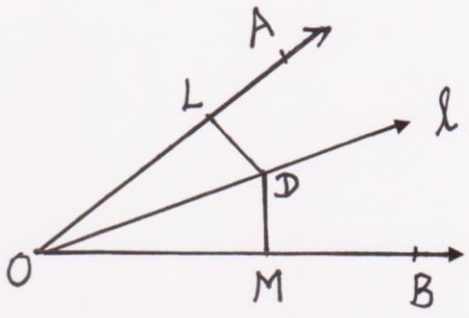
8) In the figure , AB = CD , $\angle ABD = \angle CDB$, prove that AD = BC.



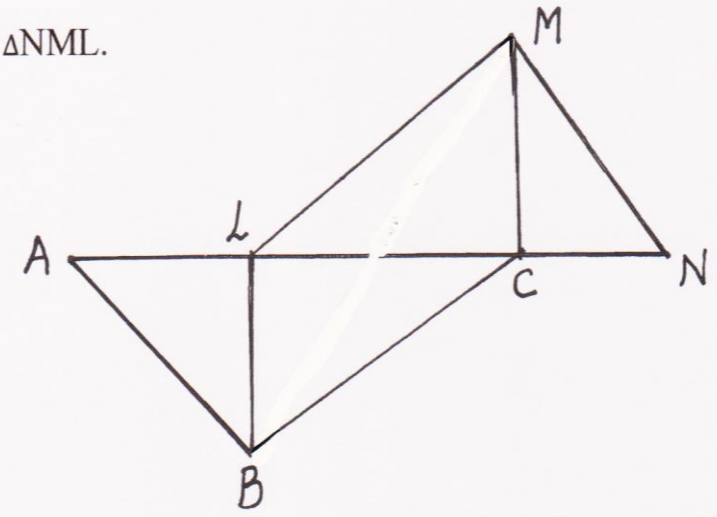
9) In the figure , AF = CD and $\angle AFE = \angle CDE$, prove that EF = ED.



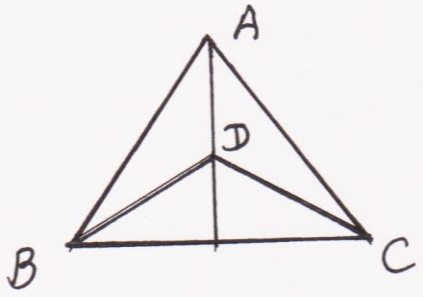
10) In the figure , l is the bisector of $\angle AOB$. D is a point on l. $DL \perp OA$ and $DM \perp OB$, prove that (i) $\Delta OMD \cong \Delta OLD$ (ii) DM = DL.



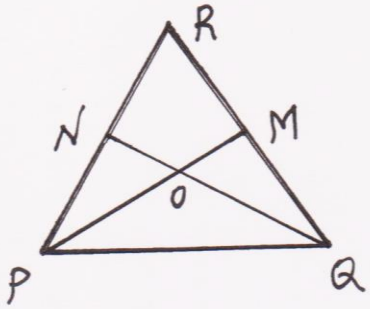
11) In the figure , BL ⊥ AC , MC ⊥ LN , AL = CN , BL = CN. Prove that $\Delta ABC \cong \Delta NML$.



12) In the figure , AB = AC , D is the point in the interior of ΔABC such that $\angle DBC = \angle DCB$. Prove that AD bisects $\angle BAC$ of ΔABC.



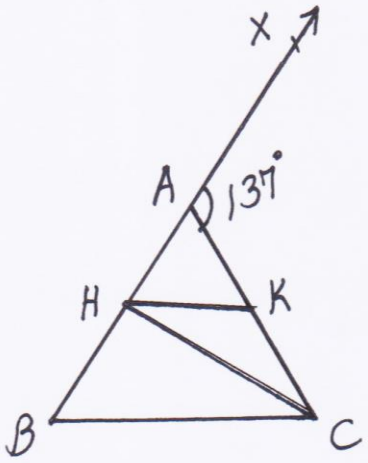
13) In the figure , RP = RQ and M and N are respectively points on the sides QR and PR of ΔPQR such that QM = PN . Prove that OP = OQ where O is the point of intersection of PM and QN.



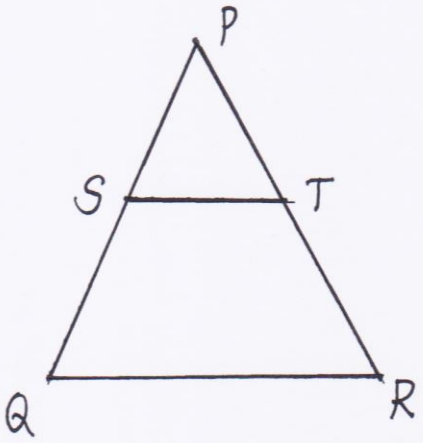
14) In the figure , ABC is an isosceles triangle with AB = AC and LM ∥ BC. If $\angle A = 50°$, find $\angle LMC$.

15) In the figure , AB = AC , CH = CB and HK ∥ BC. If ∟CAX = 137° ,

Find ∟CHK.



16) PQR is a triangle with PQ = PR. S is any point on the side PQ. Through S , a line is drawn parallel to QR intersecting PR at T. Prove that PS = PT.



ANSWERS

14) 115°

15) 43°