INTERNATIONAL INDIAN SCHOOL

BURAIDAH

Worksheet For The Academic Year 2023-24

CLASS: IX SUBJECT: Mathematics DATE: 29/08/2023

LESSON-7 Triangles

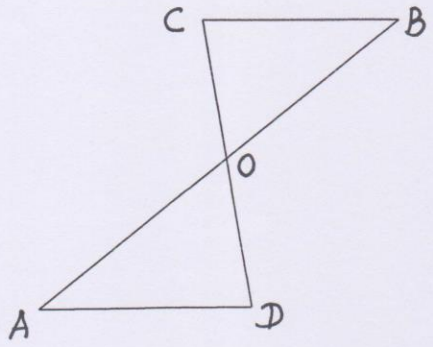
1) Each of the equal angles of an isosceles triangle is 38° , find the measure of the third angle.

2) The angles of a triangle are in the ratio 2: 3: 4. Find the angles of the triangle.

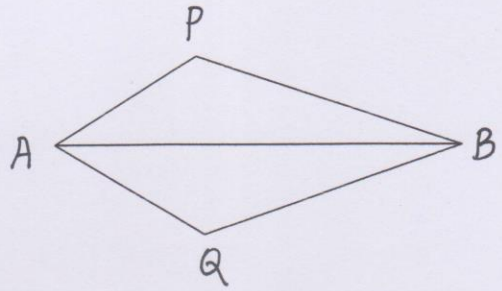
3) Altitude AD of ΔABC bisects BC. Show that ΔABC is isosceles.

4) In the figure OA = OB and OD = OC . Show that

(i) $\Delta AOD \cong \Delta BOC$ (ii) AD || BC

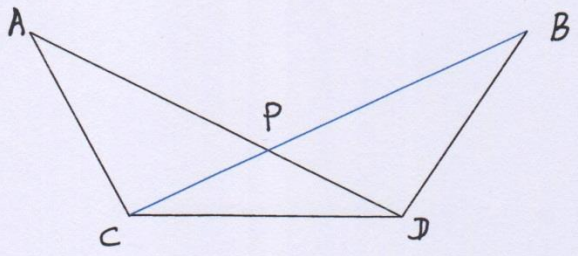


5) In the figure AP = AQ and BP = BQ , Prove that AB is the bisector of $\angle PAQ$ and $\angle PBQ$.



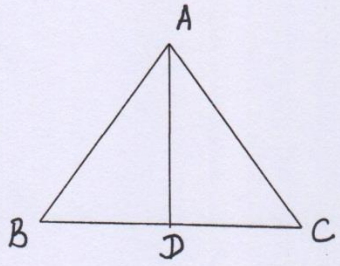
6) In the figure $\angle ADC = \angle BCD$ and $\angle BDA = \angle ACB$ then prove that

(i) $AD = BC$ (ii) $\angle A = \angle B$.

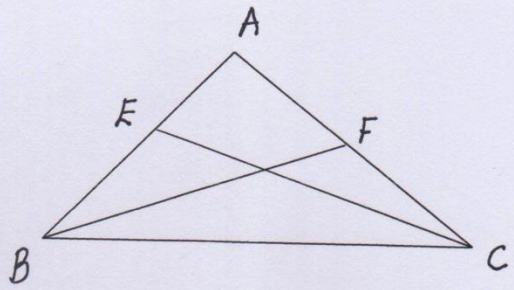


7) Prove that angles opposite to equal sides of an isosceles triangle are equal.

8) In the figure , the bisector AD of $\angle A$ is perpendicular to BC. Show that $AB = AC$.

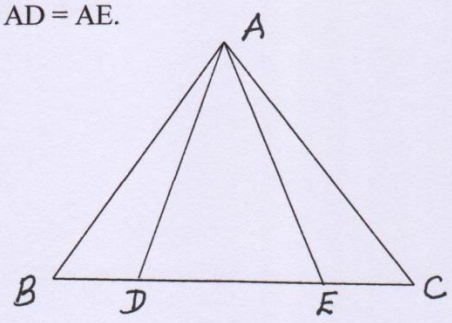


9) In the figure , E and F are respectively the mid-points of equal sides AB And AC of ΔABC. Show that $BF = CF$.

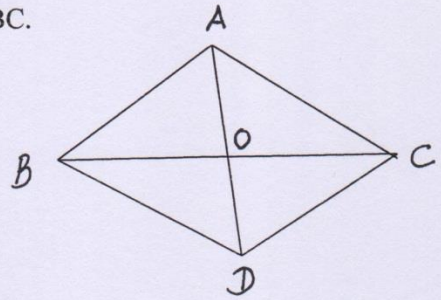


10) In ΔABC , $AB = AC$ and D and E are points on BC such that $BD = CE$.

Show that $AD = AE$.



11) In the figure , ΔABC and ΔBDC are isosceles triangles formed on the base BC such that $AB = AC$ and $BD = CD$. Show that AD is the perpendicular bisector of BC.



12) ΔADQ and ΔBCP are drawn with their base on line segment DC such that $AD \perp CD$ and $CB \perp CD$, $AQ = BP$ and $DP = QC$. Prove that $\angle DAQ = \angle CBP$.