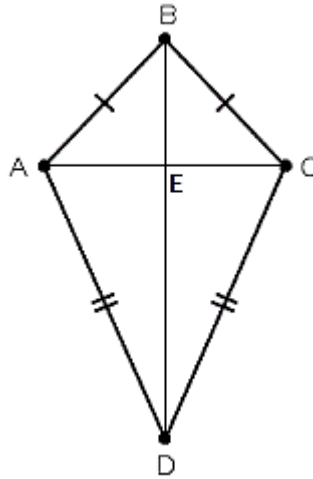


Board – ICSE

Class – 7<sup>th</sup>

Topic – Congruency: Congruent triangles

1. In the following figure,  $AB = BC$  and  $AD = CD$ . Show that  $BD$  bisects  $AC$  at right angles.



- If the opposite sides of a quadrilateral are equal, prove that the quadrilateral will be parallelogram.
- In a quadrilateral LMNP,  $LM = LP$  and  $MN = NP$ . Prove that  $LN \perp MP$  and  $MO = OP$  [O is the point of intersection of MP and LN]
- By S-S-S congruence prove that 'Diagonal of the rhombus bisects each other at right angles'.
- $LM = NO$  and  $LO = MN$ . Show that  $\Delta LON \cong \Delta NML$ .
- By using SAS congruency proof that, angles opposite to equal side of an isosceles triangle are equal.
- Show that bisector of the vertical angle of an isosceles triangle bisects the base at right angle.
- $\Delta XYZ$  is an equilateral triangle such that  $XO$  bisects  $\angle X$ . Also,  $\angle XYO = \angle XZO$ . Show that  $\Delta YXO \cong \Delta ZXO$
- The straight line drawn through the intersection of the two diagonals of a parallelogram divide it into two equal parts.
- $OB$  is the bisector of  $\angle AOC$ ,  $PM \perp OA$  and  $PN \perp OC$ . Show that  $\Delta MPO \cong \Delta NPO$ .
- In the adjoining figure, given that  $AB = BC$ ,  $YB = BZ$ ,  $BA \perp XY$  and  $BC \perp XZ$ . Prove that  $XY = XZ$
- $\Delta XYZ$  is an isosceles triangle such that  $XY = XZ$ , prove that the altitude  $XO$  from  $X$  on  $YZ$  bisects  $YZ$ .