

DELHI PUBLIC SCHOOL JAMMU

SESSION-2024-2025

Assignment

Topic: Triangles

Class- IX

Subject-Mathematics

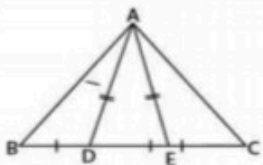
Q1: In  $\triangle ABC$ ,  $BC=AB$  and  $\angle B=80^\circ$ . Then  $\angle A$  is equal to ?

Q2: In the two  $\triangle ABC$  &  $\triangle DEF$ ,  $AB=DE$  &  $AC=EF$ , Name two angles from the two triangles that must be equal so that the two triangles are congruent. Give a reason for your answer

Q3. For a triangle prove that sides opposite to equal angles are equal.

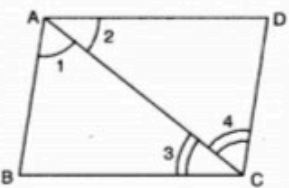
Q4:  $ABC$  is an isosceles triangle with  $AB=AC$  and  $BD$  and  $CE$  are its two medians. Show that  $BD=CE$ .

Q5: In Figure 7.4,  $D$  and  $E$  are points on side  $BC$  of a triangle  $ABC$  such that  $BD=CE$  and  $AD=AE$ . Show that triangle  $ABD \cong$  triangle  $ACE$



Q6: If the Bisector of an angle of a triangle also bisects the opposite sides prove that the triangle is isosceles.

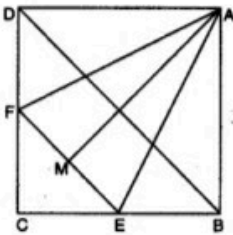
Q7: In the given figure, if  $\angle 1 = \angle 2$  and  $\angle 3 = \angle 4$ , then prove that  $BC = CD$ .



Q8:  $ABC$  is an isosceles triangle with  $AB = AC$ .  $P$  and  $Q$  are points on  $AB$  and  $AC$  respectively such that  $AP = AQ$ . Prove that  $CP = BQ$ .

Q9: In figure, ABCD is a square and EF is parallel to diagonal BD and  $EM = FM$ . Prove that

(i)  $DF = BE$  (ii) AM bisects  $\angle BAD$



Q10: Prove ASA rule of congruence of triangles