**Assignment – 7**

Assigned To = All 9 Class Students

**Chapter = Triangles**

**Submission Date = 06 November 2022 MM = 30**

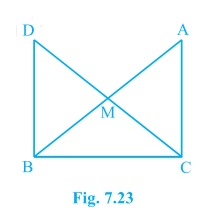
Q1. ****In right triangle ABC, right angled at C, M is the mid-point of hypotenuse AB. C is joined to M and produced to a point D such that DM = CM. Point D is joined to point B (see Fig. 7.23). Show that:****

**(i) ΔAMC ≅ ΔBMD**

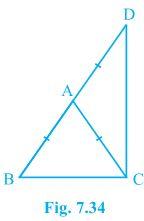
**(ii) ∠DBC is a right angle.**

**(iii) ΔDBC ≅ ΔACB**

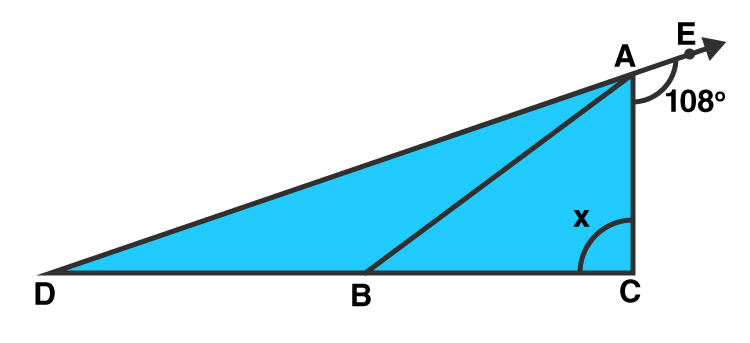
**(iv) CM = ½ AB**



Q2. ****ΔABC is an isosceles triangle in which AB = AC. Side BA is produced to D such that AD = AB (see Fig. 7.34). Show that ∠BCD is a right angle.****



Q3. ****In figure, AB divides ∠DAC in the ratio 1 : 3 and AB = DB. Determine the value of x.****

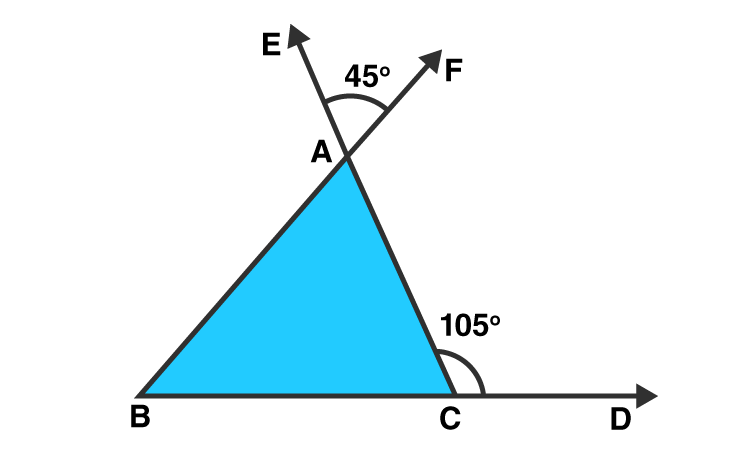


Q4. ****In a △ABC, the internal bisectors of ∠B and ∠C meet at P and the external bisectors of ∠B and ∠C meet at Q. Prove that ∠BPC + ∠BQC = 1800.****

****Q5. If one angle of a triangle is equal to the sum of the other two, show that the triangle is a right angle triangle.****

Q6. ****Two angles of a triangle are equal and the third angle is greater than each of those angles by 300. Determine all the angles of the triangle.****

Q7. ****In figure, the sides BC, CA and AB of a △ABC have been produced to D, E and F respectively. If ∠ACD = 1050 and ∠EAF = 450, find all the angles of the △ABC.****



Q8. ****Show that the angles of an equilateral triangle are 60° each.****

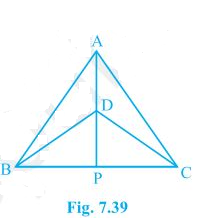
**Q9. ΔABC and ΔDBC are two isosceles triangles on the same base BC and vertices A and D are on the same side of BC (see Fig. 7.39). If AD is extended to intersect BC at P, show that**

**(i) ΔABD ≅ ΔACD**

**(ii) ΔABP ≅ ΔACP**

**(iii) AP bisects ∠A as well as ∠D.**

**(iv) AP is the perpendicular bisector of BC.**



**Q10. Two sides AB and BC and median AM of one triangle ABC are respectively equal to sides PQ and QR and median PN of ΔPQR (see Fig. 7.40). Show that:**

**(i) ΔABM ≅ ΔPQN**

**(ii) ΔABC ≅ ΔPQR**

