Class : IX Subject : Mathematics Assignment 1: Triangles.

1. In fig (i) AB = FE, BC = ED, AB ⊥ BE, FE ⊥ BE. Prove that ∠ADB = ∠FCE.

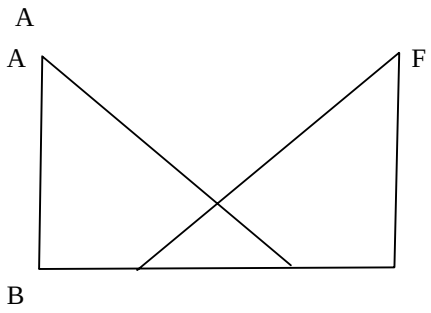


Fig (i)

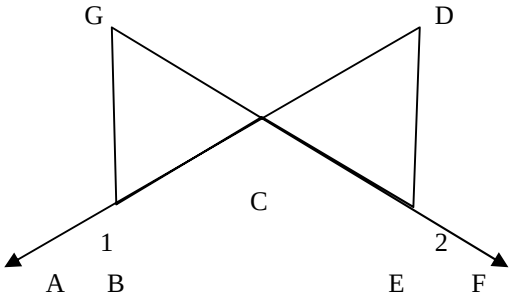


fig (ii)

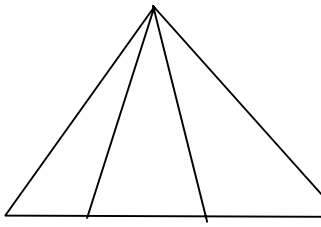


fig (iii)

2. In fig (ii) BC = EC, ∠1 = ∠2, prove that ΔGBC = ΔDEC.
3. In fig (iii) AB = AC and BE = CD. Prove that AE = AD
4. In fig (iv) AD = AC, ∠BAC = ∠EAD. Prove that AB = AE
5. In fig (v) ∠ABC is an angle in a semi-circle. Prove that ∠ABC = 90^0. (hint: Join OB)
6. In fig (vi) ABCD is a square. X & Y are points on AD and BC respectively, such that ABX. Prove that ∠BAY = ∠ABX.
7. In fig (vii) AB = AC. Is AB > BC?

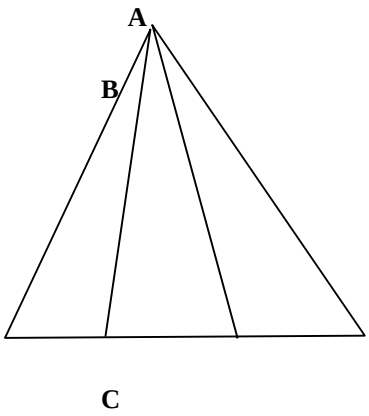


Fig (iv)

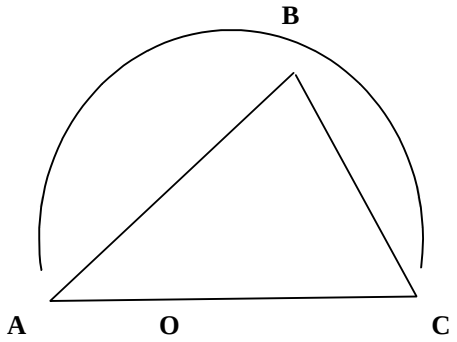


fig (v)

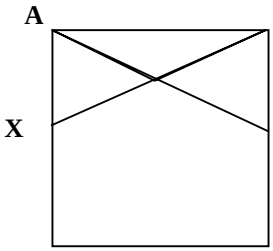
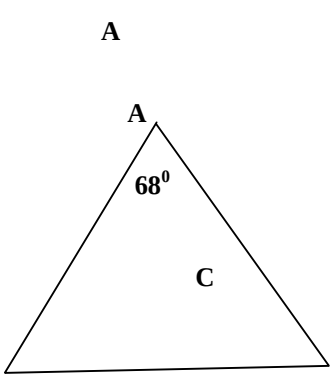
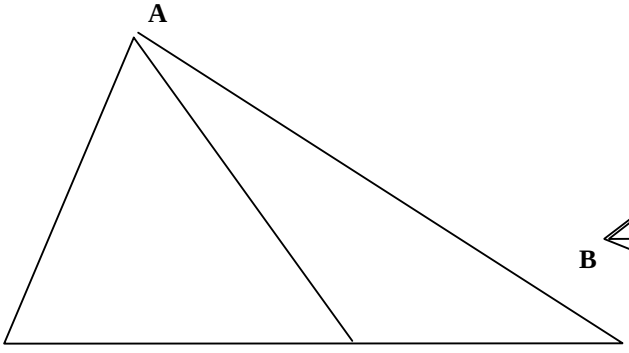
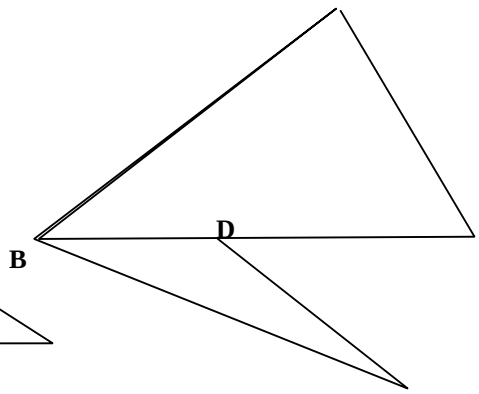


fig (vi)







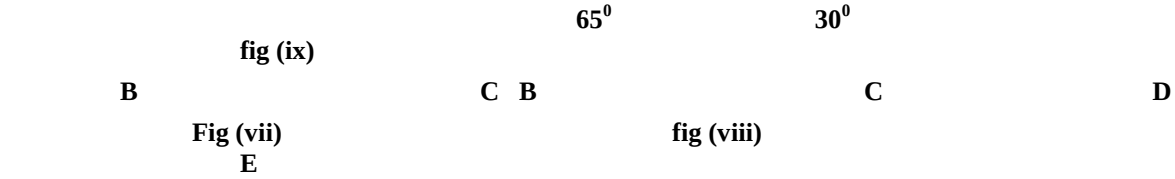


fig (ix) **Fig (vii)** **fig (viii)**

E

8. In fig (viii), AB = AC. Arrange BC, CA, CD in ascending order of magnitude.
9. In fig (ix) D is a point on the side BC of a ΔABC and E is a point such that ED = CD. Show that AB + AC > BE.