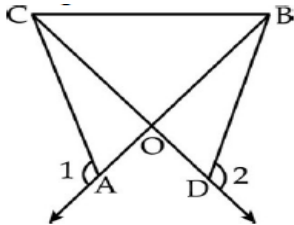
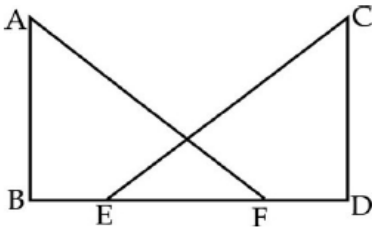


1. In figure  $OA = OD$  and  $\angle 1 = \angle 2$ . Prove that  $\triangle OCB$  is an isosceles triangle.

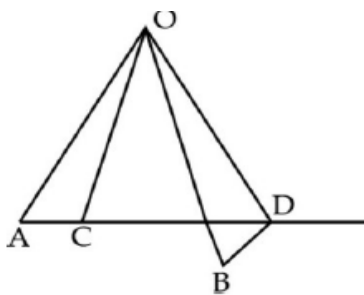


2. In  $\triangle ABC$ ,  $AC > AB$ . The bisectors of  $\angle B$  and  $\angle C$  intersect each other at  $O$ . Show that  $OC > OB$ .

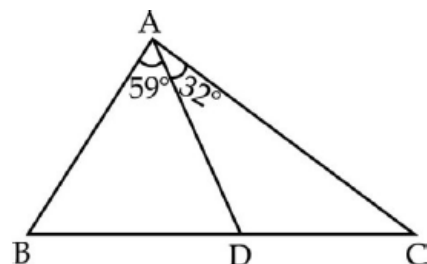
3. Two equal pillars  $AB$  and  $CD$  are standing on either sides of the road as shown in the figure. If  $AF = CE$  then prove that  $BE = FD$ .



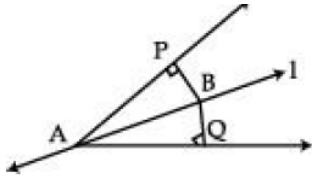
4. In figure  $OA = OB$ ,  $OC = OD$  and  $\angle AOB = \angle COD$ . Prove that  $AC = BD$ .



5. In the given figure  $AD = BD$ . Prove that  $BD < AC$ .

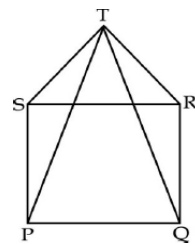


6. Line  $l$  bisects  $\angle A$  and  $B$  is any point on line  $l$ .  $BP$  and  $BQ$  are perpendiculars drawn from  $B$  on arms of  $\angle A$ . Prove that: (i)  $\triangle APB \cong \triangle AQB$  (ii)  $BP = BQ$

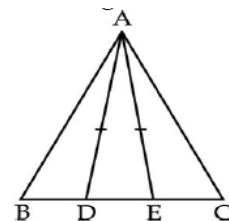


7. In the figure, PQRS is a square and SRT is an equilateral triangle. Prove that

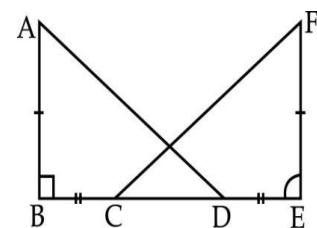
- (i)  $PT = QT$                       (ii)  $\angle TQR = 15^\circ$



8. In the figure,  $AD = AE$ ,  $BD = BC$ . Prove that  $\triangle ABC$  is an isosceles triangle.



9. In the figure,  $AB = EF$ ,  $BC = ED$ ,  $AB \perp BD$ ,  $FE \perp EC$ . Prove that  $\triangle ABD \cong \triangle FEC$



10. Side  $BC$  of  $\triangle ABC$  is produced to  $D$ . The bisector of  $\angle A$  meets  $BC$  at  $L$ . Prove that  $\angle ABC + \angle ACD = 2\angle ALC$ .

