(8)

But $\angle 3 + \angle 4 = 180^\circ$ [linear pair axiom]

$2\angle 3 = 180^\circ$

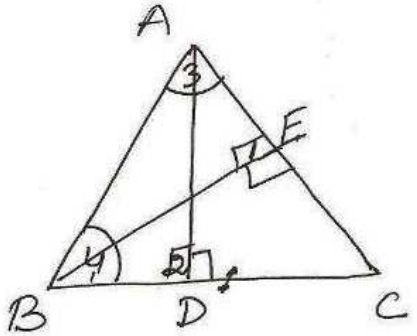
$\angle 3 = \frac{180}{2}$

$= 90$

$\Rightarrow AD \perp BC$

AD is per per bis. of BC [$BO = CO$, $\angle 3 = 90^\circ$]

(9)



To Prove $AE = BD$

Proof In $\triangle AEB$ and $\triangle BDA$

$\angle 1 = \angle 2 = 90^\circ$

$\angle 3 = \angle 4$ [In $\triangle ABC$, $AC = BC$ $\Rightarrow \angle 4 = \angle 3$ isos $\triangle$ prop.]

$AB = BA$ (common)

$\therefore \triangle AEB \cong \triangle BDA$ by AAS cor

$\therefore AE = BD$ (cpct)