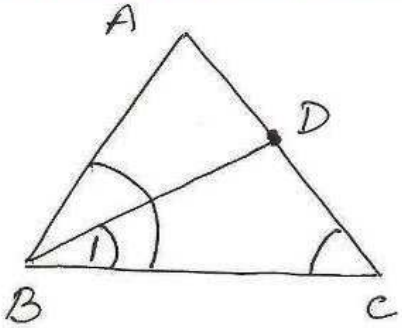
⑦




to show $CD < BD$

proof

In $\triangle ABC$, $AB = AC$

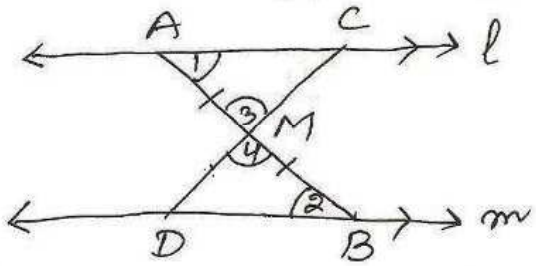
$\angle C = \angle ABC$ (isos. $\triangle$ prop.)

But $\angle ABC > \angle 1$

$\angle C > \angle 1$

$BD > CD$ [greater angle has longer side opp. to it]

⑧




to show $MC = MD$

proof $l \parallel m$

$\therefore \angle 1 = \angle 2$ (alter. interior angles)

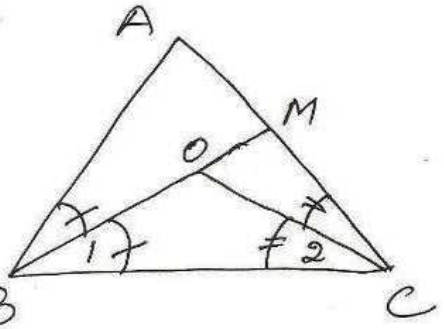
$AM = BM$ (given)

$\angle 3 = \angle 4$ (ver opp $\angle$s)

$\therefore \triangle AMC \cong \triangle BMD$ by ASA prop

$MC = MD$ (cpct)

⑨




to prove $\angle MOC = \angle ABC$

proof In $\triangle ABC$

$AB = AC$

$\angle ACB = \angle ABC$ (isos. $\triangle$ prop.)

$\frac{1}{2}\angle 2 = \frac{1}{2}\angle 1$ ... ① [BO bis. $\angle ABC$, CO bis. $\angle ACB$]

$\angle MOC = \angle 1 + \angle 2$ (exterior $\angle$ prop of $\triangle$)

$= \angle 1 + \angle 1$

$= 2\angle 1$

$= \angle ABC$