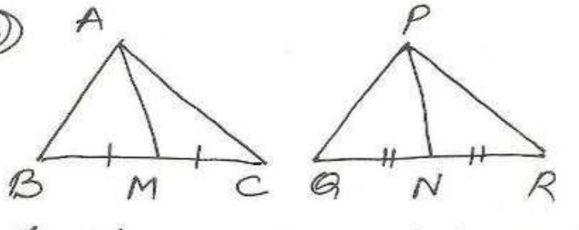
(3)



To show $\triangle ABM \cong \triangle PQN$

$\triangle ABC \cong \triangle PQR$

Proof $BC = QR$

$\frac{1}{2}BC = \frac{1}{2}QR$

$\Rightarrow BM = QN$ [AM, PN as medians to sides BC, QR resp]

In $\triangle ABM$ and $\triangle PQN$

$AB = PQ$ (given)

$AM = PN$ (given)

$BM = QN$ (proved)

$\therefore \triangle ABM \cong \triangle PQN$ by SSS prop

$\angle B = \angle Q$ (cpct)

In $\triangle ABC$ and $\triangle PQR$

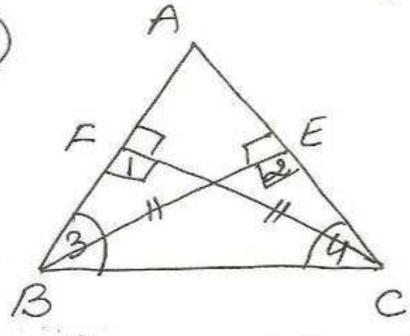
$AB = PQ$ (given)

$\angle B = \angle Q$ (proved)

$BC = QR$ (given)

$\therefore \triangle ABC \cong \triangle PQR$ by SAS prop

(4)



To Prove $AB = AC$

Proof In $\triangle BFC$ and $\triangle CEB$

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

$BC = CB$ (common)

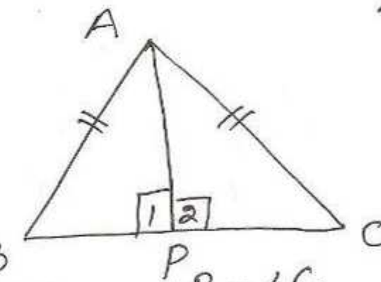
$CF = BE$ (given)

$\therefore \triangle BFC \cong \triangle CEB$ by RHS prop

$\angle 3 = \angle 4$ (cpct)

$\Rightarrow AC = AB$ (converse of isos $\triangle$ prop)

(5)



To show $\angle B = \angle C$

Proof In $\triangle APB$ and $\triangle APC$

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

$AB = AC$

$AP = AP$

$\therefore \triangle APB \cong \triangle APC$ by RHS prop

$\angle B = \angle C$ (cpct)