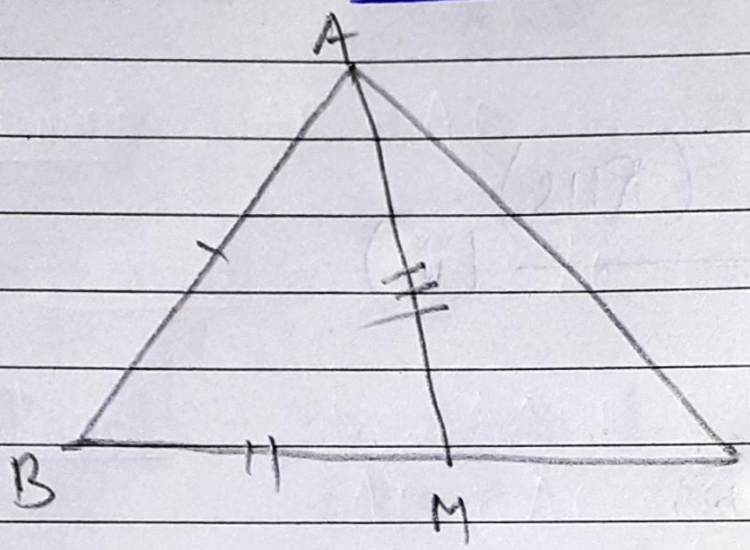
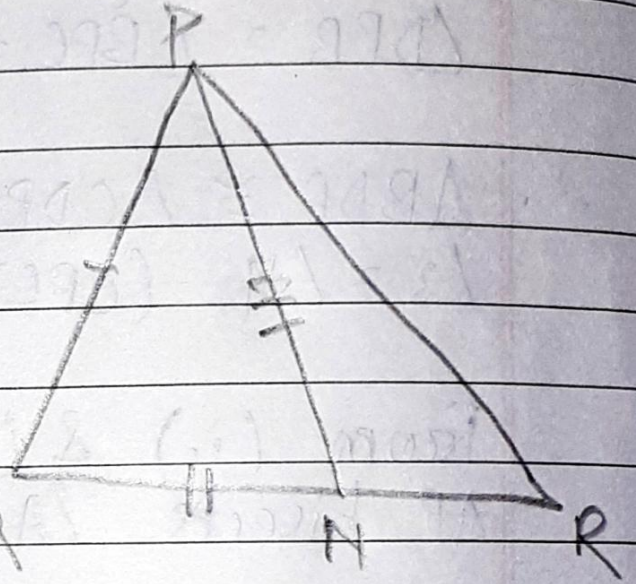
H.W
9.7.24

3.

Ex. 7.3





Ans:- **Given :-** $AB = PQ$
$BC = QR$
$AM = PN$
AM & PN are the medians.

To prove :- i. $\Delta ABM \cong \Delta PQN$
ii. $\Delta ABC \cong \Delta PQR$

Proof :- In ΔABM & ΔPQN
$AB = PQ$ (Given)
$AM = PN$ (Given)

⇒ $BC = QR$

⇒ $\frac{1}{2}BC = \frac{1}{2}QR$

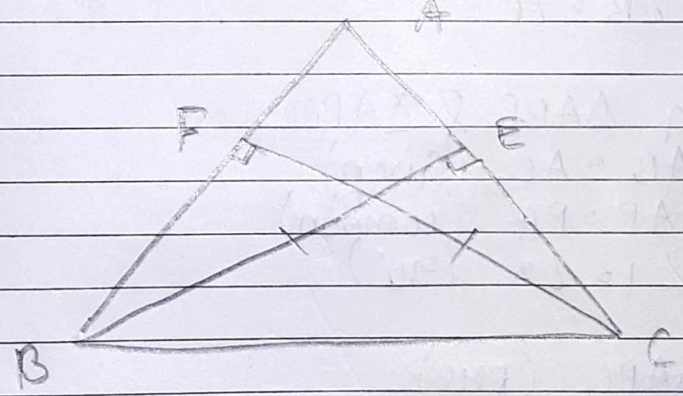
⇒ $BM = QN$ (proved)

$\therefore \Delta ABM \cong \Delta PQN$ (SSS)
$\angle B = \angle Q$ (CPCT)

In ΔABC & ΔPQR
$AB = PQ$ (Given)
$\angle B = \angle Q$ (proved earlier)
$BC = QR$ (Given)

$\Delta ABC \cong \Delta PQR$ (SAS)

4.



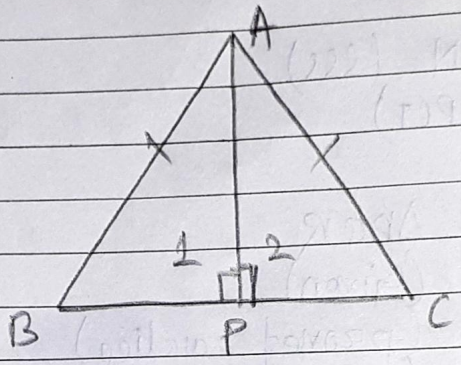
Ans- Given :- BE & CF are equal altitude

To prove :- ΔABC is isosceles

Proof :- In ΔBEC & ΔCFB
$\angle BEC = \angle CFB$ (90°)
$BC = CB$ (common)
$BE = CF$ (Given)

$\therefore$ $\Delta BEC \cong \Delta CFB$ (RHS)
$\angle B = \angle C$ (CPCT)
$AC = AB$ (sides opposite to equal angle).
$\therefore$ ΔABC is an isosceles. (proved)

5.



Ans- Given :- $AB = AC$

To prove :- $\angle B = \angle C$

Proof :- In ΔABP & ΔAPC
$AB = AC$ (Given)
$AP = PA$ (common)
$\angle 1 = \angle 2$ ($90°$)

$\therefore$ $\Delta ABP \cong \Delta APC$ (RHS)
$\angle B = \angle C$ (CPCT)