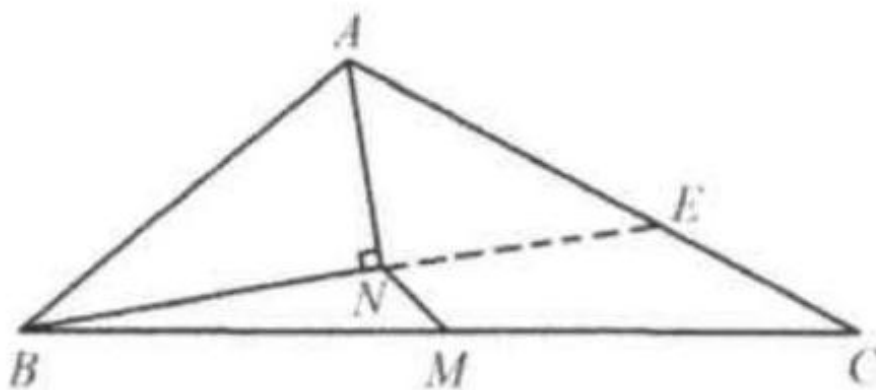
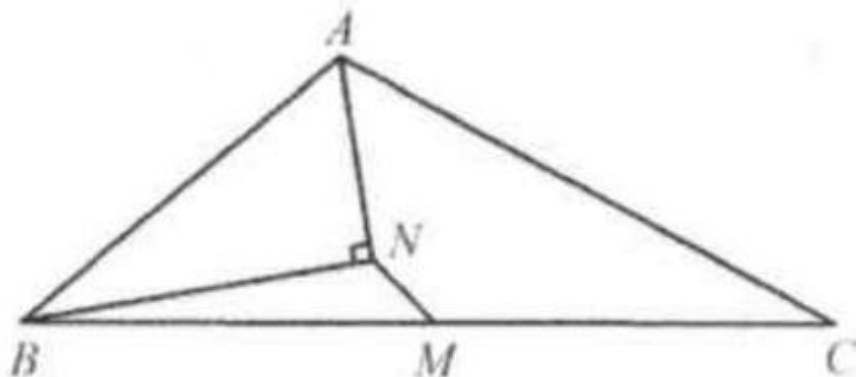


Example 2

In $\triangle ABC$, AN bisects $\angle BAC$, $BN \perp AN$. $MN \parallel AC$. Prove that $BM = MC$.

Solution: In the adjoining figure, BN is extended past N and meets AC at E . Triangle BNA is congruent to $\triangle ENA$, since $\angle BAN = \angle EAN$, $AN = AN$ and $\angle ANB = \angle ANE = 90^\circ$.

Therefore N is the midpoint of BE . Since $MN \parallel AC$,



$MN \parallel EC$. Thus MN is the midline of $\triangle BCE$.
So $BM = MC$.