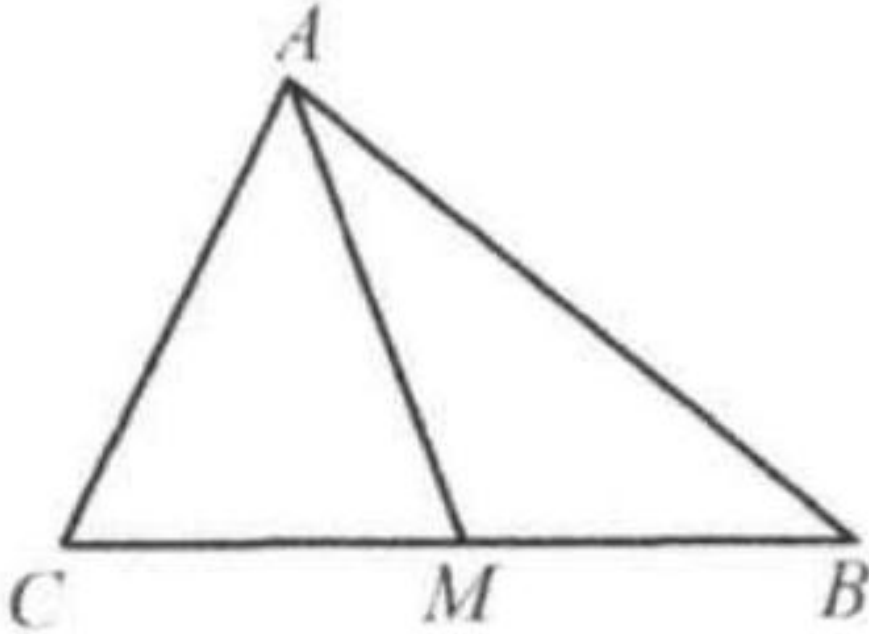# Problem 2

Problem

In $\triangle ABC$, $AB > AC$. AM is the median on side BC. Show that $\angle CAM$ ¿ $\angle BAM$

Solution

Extend AM to E such that $AM = ME$.
Connect CE.
Since $AM = ME, CM = BM, \angle AMB = \angle EMC$, we have
$\triangle AMB \cong \triangle EMC$.
So $CE = AB, \angle BAM = \angle CEA$.
In triangle $ACE, CE = AB > AC$ $\quad \angle CAE > \angle CEA$.
Since $\angle BAM = \angle CEA, \quad \angle CAM > \angle BAM$.