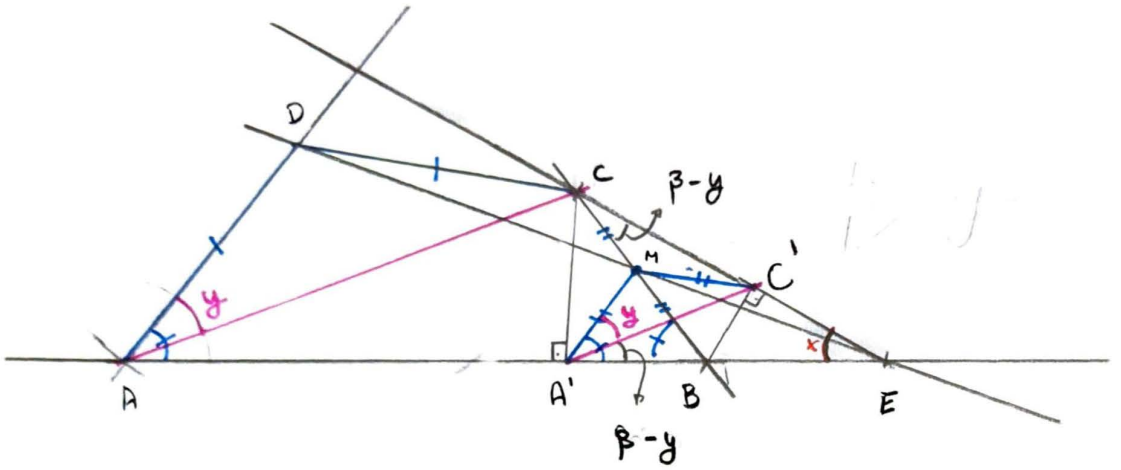
Problema 9 . (Geometria/Argis)



Let T be the Homothethy with center E that $D \to M$.

Let $T(A) = A' \in AE$ and $T(C) = C' \in CE$.

Thus, $\angle CAD = \angle C'A'M$.

Also, $\angle DAE = \angle MA'B = \angle MBA' \Rightarrow MB = MA' = MC = MC' \Rightarrow A'BC'C$ cyclic, with center M.

Thus, $\angle BCC' = \angle BA'C' = \angle ABC - \angle MA'C'$.

Also, $\angle ABC = \angle BCC' + \angle BEC \Rightarrow \angle MA'C' = \angle BEC$

$\angle CAD$

□