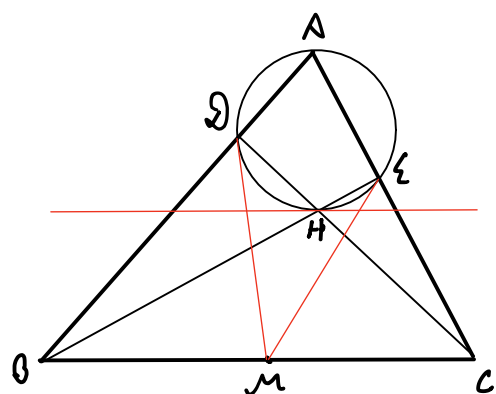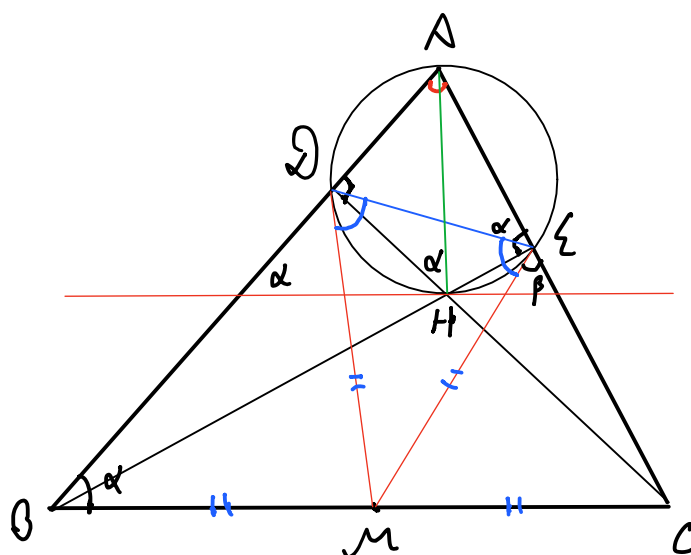# Three Tangent Lemma

For an acute triangle ABC let CD, BE be the altitudes to AB and AC respectively. If M is the midpoint of BC, DM, ME, and a line through H (orthocenter of $\triangle ABC$) parallel to BC are tangent to the circumcircle of $\triangle DE$.

Proof

· $H \in (ADE)$
· $(ADE) \equiv (AH)$

$$\bullet = 180 - C - \beta = 180 - \beta - \beta = 180 - \alpha - \beta = \bullet$$

D