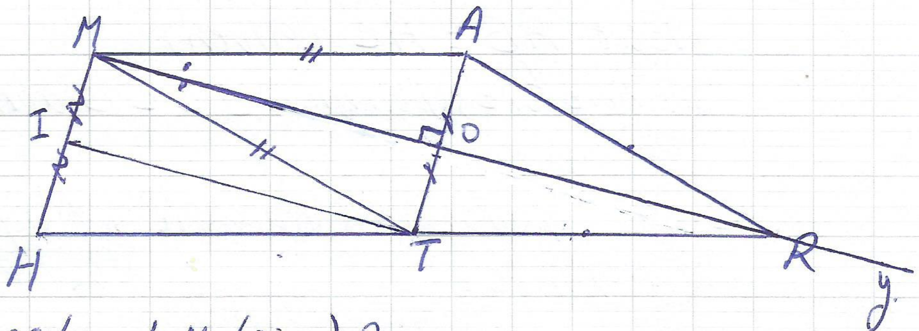
AB = CD (opposite sides of parm ABCD)
AB = CE (opposite sides of rhombus ABEC).
then CD = CE (by substitution)
but C, D and E are collinear (proved)
Therefore C is midpt of [DE].

5- In Δ ADE we have
AC = CE (sides of a rhombus)
CD = CE (proved)
then AC = CD = CE.
OR. $AC = \frac{1}{2} DE$. (median relative to hypotenuse).

Therefore, triangle DAE is right at A. (converse of midpt theorem in a right Δ)

* 6^{th} Exercise:

1) Drawn.



2a). ΔAMT is isosceles at M (given)
[My) is the bisector of $\hat{AMT}$ (given)
[My) cuts [AT] at O (given)
Thus, [MO) is the perp. bisector of [AT] (bisector issued from main vertex of an isosceles triangle).