* In Δ MGF we have:
- [OS] is perp. to [GF] (given)
- O is the orthocenter of Δ MGF (proved)
- M is a vertex of Δ MGF facing [GF] (given)

then, [MS] is a height relative to [GF]
thus, M, O & S are collinear.

4- a) * In Δ OEF we have:
[OE] is perp. to [EF] (proved)
then, OEF is right Δ of hyp. [OF].
* In Δ OSF we have:
[OS] is perp. to [SF] (proved)
then, OSF is right Δ of hyp. [OF].
* In quad. OEFS we have:
OEF & OSF are right Δs of same hypotenuse [OF] (proved)
thus, O, E, F & S belong to the same circle of center K, the midpt. of [OF]. (quad. formed of 2 right Δs sharing same hyp.)

5- [MO] is the perp. bisector of [AE] (proved)
I is the midpt. of [AE] (given)
then, $\hat{AIO} = 90$
so, AIO is right Δ at I
but A & O are fixed pts. (given)
thus, as M varies on (O), I will describe a circle of center, midpt. of [AO], and diameter [AO].