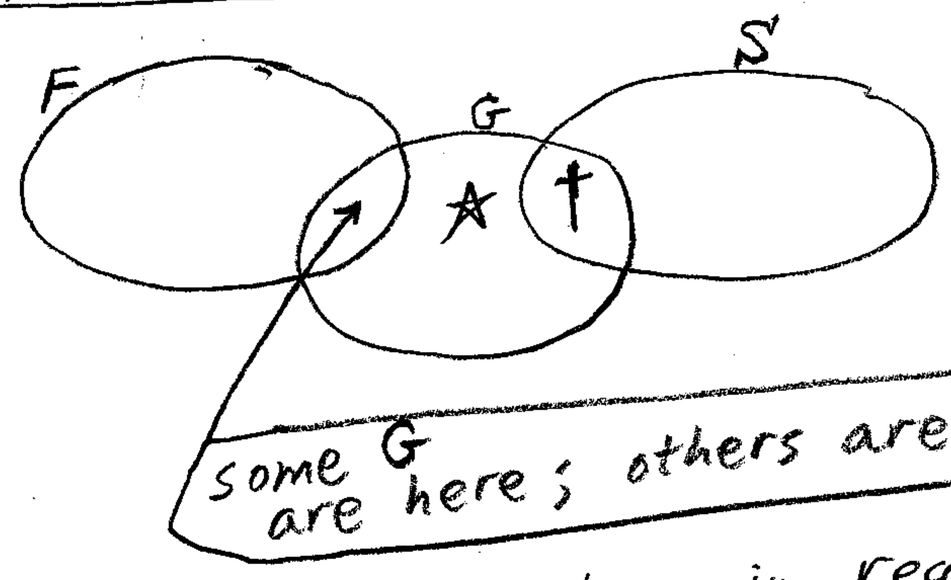
Mr. Hansen
Geom. Review
(for 10/15/2008 test)

Solutions to problems posted in 10/15/08 calendar entry:

1. (a)

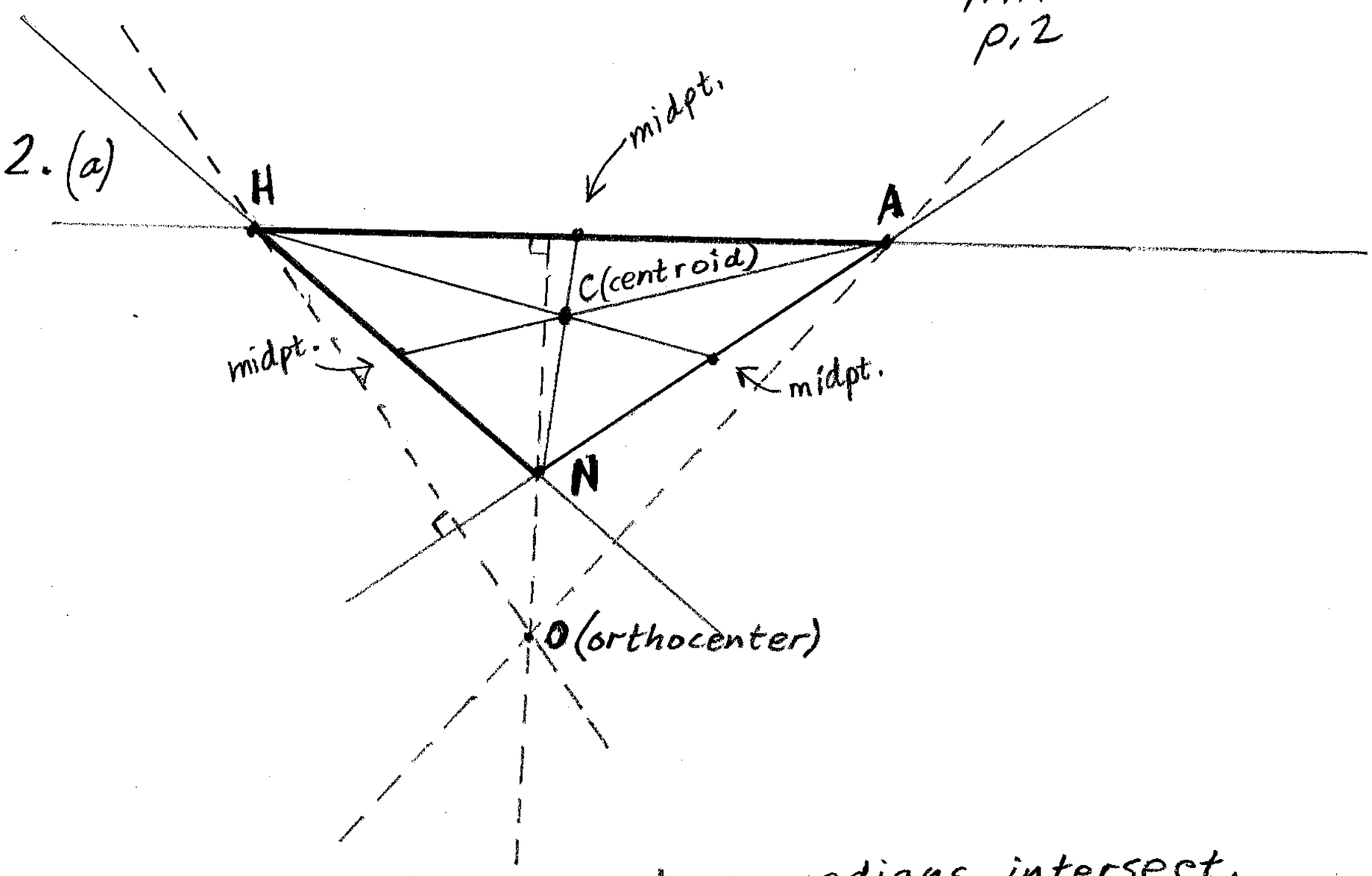



Let F = fleems
S = sneepy things
G = glams

Are there any glams in region ☆? Answer: (We don't know). The givens of the problem could be satisfied with glams in region ☆ or in region †, or both, but there is no way to know whether ☆ = ∅ or † = ∅ when each region is considered separately. If ☆ = ∅, then the answer to the question posed would be "no." If † = ∅, then the answer to the question posed would be "yes."

(b) If there are no sneepy glams, that means that $S \cap G = \dagger = \emptyset$. But since there are some glams outside region F (given), ☆ cannot also be null. Therefore, since ☆ represents glams that are neither fleems nor sneepy, the answer to the question must be (yes.)

2. (a)




Centroid C occurs where medians intersect.
Orthocenter O is at intersection of the three altitudes (dashed lines). Note that for an obtuse Δ, the altitudes intersect outside the Δ itself.

(b) Any two perpendicular bisectors (not shown above) cross at the circumcenter. We will be able to prove that later this fall.

(c) Mdpt. of $\overline{ZO}$ (where Z = circumcenter, O = orthocenter) is the 9-point center.