

1. *Quiz 1* was administered.
2. *Literature*
 - a. Several English-language mathematics journals frequently publish expository articles on history of mathematics. They are aimed at readers with your experience or more, but not at professional historians. They have the highest editorial standards in our profession, and the historical articles are generally quite fun to read.
 - i. *College Mathematics Journal*
 - ii. *Mathematics Magazine*
 - iii. *American Mathematical Monthly*
 - iv. *Mathematical Intelligencer*
 - v. *Mathematical Gazette*
 - b. All these are online, except for the most recent few years. Our Library should have hardcopies of their recent issues in its Annex facility. The one with the most historical emphasis is the *Intelligencer*.
 - c. I've provided example recent issues to browse. These just happened to be lying about my office: I didn't really search for them.
 - d. Almost every time I scan through one of these I find some article that suggests a possible term-paper topic.
3. I forgot to emphasize the timeline of the diagram about the axiomatic method at the end of lecture 5.
 - a. Thales (approximately 625–545 B.C.E.),
 - b. Pythagoras (approximately 575–495 B.C.E.), Socrates (approximately 470–400 B.C.E.),
 - c. Plato (approximately 428–347 B.C.E.),
 - d. Archytas (428–347 B.C.E.),
 - e. Aristotle (384–322 B.C.E.),
 - f. Alexander the Great (356–323 B.C.E.),
 - g. Ptolemy the Savior (approximately 367–283 B.C.E.),
 - h. Euclid (worked around 300 B.C.E.).

Socrates taught Plato, who taught Aristotle, who taught Alexander, who commanded his general Ptolemy, who founded Alexandria, where Euclid worked.
4. *Volunteers for reports*. I need two more, for next meeting or a week from today:
 - a. Given the formula ab for the area of a rectangle with base and altitude a, b , derive the formula for the area of a right triangle, then show that the same formula holds for any triangle. Careful: you have to use slightly different methods for the cases where the foot of the altitude of the triangle falls inside or outside the base.
 - b. Given the formula for the area of a triangle, derive those for the area of a trapezoid and a parallelogram.

5. *Euclid, continued*

- a. Earlier, we considered Euclid's first four postulates, and used them to give arguments for his first four propositions. We saw that he didn't completely justify his constructions of points as intersections of circles and lines—modern presentations of this theory would carefully add postulates to insure that those figures did intersect. Moreover, we saw that he didn't really prove the SAS principle, proposition I.4—modern presentations regard it as a postulate, too.
- b. Proposition I.5: if $\triangle ABC$ has equal edges AB and AC , then the opposite angles A and C are equal. Euclid's proof is unnecessarily complicated. Here's one due to Pappus, around 325 C.E.: if the segments opposite angles A and B in $\triangle ABC$ are congruent, then $\triangle ABC$ is in SAS correspondence with $\triangle BAC$, hence the corresponding angles A and B are congruent. A student will present Euclid's rather complicated proof during the next lecture.