Mid-Term Examination Spring 2004

**Directions:** You should prepare an essay for each of the following questions. Each should be between 3-5 pages of length. Be sure to bring a blue book with your name on it into class on Monday March 1st to be turned in. They will be checked and handed back in class on Wednesday.

A generic tip is that geography and dates are useful to help explain the timeline and understanding the history of a particular subject. They are not necessary but successful use of them will be looked at in a favorable light.

1. Compare and contrast the Egyptian and Babylonian civilizations with respect to the development of arithmetic and mathematics. Be sure to explain the methods, tools, and high points of each. Explain how we came to understand what we know. Explain the importance of the geographical locations of both.

2. Explain the term “the Alexandrian School”. Be sure to give geographical and cultural information. Make sure to highlight the big mathematical names and developments from the time period. In particular stress and explain Euclid’s role in the development of mathematics during the time period and its current impact. Try to include a discussion of incommensurability and/or the Golden Section.

3. Give an accurate timeline of the development and history of mathematics up through the time of Euclid. Be explicit and as detailed as possible with respect to names, manuscripts, geographical locations, the reasons for why particular topics where stressed over others, and any religious or philosophical ramifications.

4. Explain the Three Problems from Antiquity and their significance to modern mathematics. Translate the problems from a geometric standpoint into an algebraic one. Anecdotes will be appreciated. Be sure to explain the terms “straightedge and compass”. Include examples of some partial solutions.