

MAT305/594 Final Exam (Fall 2009)

Name:

Directions: Your solutions should be stapled together and submitted in order. Each solution should appear on its own separate page(s).

Besides your brain, you may use only your textbook, homeworks, and notes – nothing more in the way of reference. Do not consult with any other person; a computer; a soothsayer; a warlock, ent, wookiee, or android. **Good luck!**

Problem 1. (40 pts) Once again, I will have you create a sheet that summarizes some contributions to mathematics. You are to create single-sided sheets, exactly one page each, that encapsulate the mathematics of your choice of **two** of the following:

- The life and work of Archimedes.
- The impact of business, government, and technology on the progress of mathematics throughout history.
- The role of culture and personality in the history of mathematics.

You should do these to satisfy the following conditions:

- They should be neat and clean – ready to scan (no names on these sheets, please, to preserve anonymity).
- They should fill up the entire page (I don't want to see a half page of blank space – “enlarge” your work to fill the page!).
- They should use words sparingly.
- They should incorporate major aspects of mathematics we've discussed (and nothing beyond our textbook – i.e., do not do any web searches).
- All information on the sheet should be your own work – no images scanned and added, etc. It should all be done by your hand.
- They should be informative to any math major (not just those who've studied the history of mathematics).
- I would like them to show connections, where possible. Some ideas will be linked together; others stand on their own.

In addition, you will produce a second set of typed sheets (no more than three sheets per topic) for each of your “works” of math history art: on these **typed** sheets you will describe your work, explaining each element that you included, and especially any subtleties.

You might begin with this “synopsis” of the history, and then “illustrate” it.

Problem 2. (40 pts) Produce separate sheets for **four** of the following problems:

- a. p. 239, #1
- b. p. 268, #16
- c. p. 287, #11
- d. p. 295, #6
- e. p. 329, #13
- f. p. 336, #5

Problem 3. (20 pts) Submit your remaining homeworks, from which I will **randomly** choose 2 problems, from two different sections. I will also reserve a component of this grade (up to half) for apparent effort and rate of completion (I don't want the luck of the draw to weigh too heavily....).