

Lab Assignment 1

Due Wednesday, March 18th

It is assumed that you will have mastered sections 2.1 – 2.5, 3.1 – 3.3, 5.1 – 5.3, and 7.1 – 7.6 by the time you complete this lab assignment. Note this does not mean to wait until we have covered all these sections in class before starting! You should begin work immediately. Take advantage of office hours and the math lab while you are working on this lab assignment, especially if you have any questions or are confused about the requirements.

Your lab assignments must reflect a high level of professionalism. All text should be typed. Equations may be either typed or carefully hand-written in ink. Graphs may be hand-drawn in ink, with a ruler where appropriate. Use complete sentences as well as correct grammar and punctuation. Citations should be included, and all college guidelines regarding plagiarism and academic integrity should be followed.

Your final copy should be organized in the same order as presented below and bound (a staple in the corner is fine) with a title page. Font should be 12 pt, double spaced, with 1” margins, and each part of the lab should begin on a new page. The title page must include your name, the class name and number, the date the assignment is due, and the text “Lab Assignment 1.”

Written Portion (100 points total)

Part A. Web Hits (10 points). Visit the following websites to learn about different efforts to bring mathematics to the general public. Write a one or two sentences for each page about what you have discovered.

- <http://www.mathmovesu.com/>
- <http://www.weallusematheveryday.com/>
- <http://www.mathaware.org/>
- <http://www.ams.org/mathmedia/>
- <http://www.claymath.org/>

Part B. Math In Print (20 points). Select an article that uses mathematics or statistics to argue a point. Write a one-page paper on how the mathematics included may be misleading, what numbers might be missing, or other ways the statistics might be interpreted. Include a copy of the article and appropriate citation information.

Part C. Application Problems (40 points – 8 problems, 5 points each). Complete the following problems from the textbook. Your solutions should be typed, with complete sentences. Equations can be included using MathType, Equation Editor, or equivalent. (Software is available in the math lab.) Equations may also be hand-written in ink. To ensure you receive full credit, show all steps.

- Section 2.4, Problem 44 (page 105)
- Section 2.5, Problem 65 (page 118)
- Section 3.1, Problem 44 (page 147)
- Section 3.3, Problem 10 (page 160)
- Section 5.3, Problem 38 (page 254)

- Section 7.3, Problem 42 (page 373)
- Section 7.5, Problem 64 (page 405)
- Section 7.6, Problem 40 (page 418)

Part D. Mathematics Essay (30 points). The history of mathematics is filled with colorful characters, people of dubious values, and true heroes. Discover a mathematician born before 1900 A.D. who captures your interest (Google.com may be very useful). Investigate this mathematician.

- What were his or her contributions to the field? For this question, it is not necessary that you are able to derive all of their discoveries, or precisely follow all the math, but you should be able to understand and describe the significance of this person's achievements.
- What motivated this person to become a mathematician (if you can find this information)?
- What difficulties did this person face in achieving his or her dream?
- Was this person celebrated in his or her own time, or did recognition come after death?
- Why are you interested in this particular character?
- How have mathematicians that followed used this person's contributions?

No two people may study the same mathematician. Once you have chosen your subject, let me know who it is (e-mail is fine for this). This will be first come, first served. If your mathematician has already been selected by another student, you must choose another one. All selections must be approved no later than ***Tuesday, February 24.***

Prepare a three page essay reflecting the information you have discovered and why you have chosen this person. Use footnotes to cite your sources.

In-Class Portion (50 points total)

Prepare a two- to three-minute talk about the person you researched for your mathematics essay. Do not just read the essay you have already prepared, but make an effort to bring your mathematician "to life" in your speech. Deliver this presentation in class. We probably will not have access to PowerPoint, but you may use the overhead projector if you have transparencies. You will be graded on the following:

- Did you address the bulleted points described in Part D above? *25 points*
- Did you give a professional, practiced presentation, demonstrating an adequate level of preparation? (Make an effort to figure out how to pronounce your mathematician's name correctly!) *20 points*
- Did you speak for the designated amount of time? (Going significantly over or under time can lose you points.) *5 points*

You will not lose points specifically for your speaking ability (nervousness, jitters, etc.) but you will lose points if you do not present yourself professionally or if you are obviously unprepared. You should try to dress well for your presentation and speak clearly.