

MATH 220 Writing Assignment

Spring 2007, Section 902

The writing assignment will consist of a five to ten page paper. Some types of possible topics are: a major theorem (e.g. Fermat's Last Theorem), a problem that remains unsolved but has led to substantial mathematical activity (e.g. the Riemann Hypothesis), an important mathematical concept (e.g. the axiom of choice), a specific application of mathematics to another subject, or a biography of a famous mathematician. The paper need not contain proofs, but should have significant mathematical content. (For example, in a biography, include a discussion of some of the mathematician's work.) *Any mathematics should be explained clearly enough that your classmates would understand it.* You must use and cite two or more sources, at least one of which must be off-line (e.g. a book, journal, or newspaper article).

Schedule

- 2/23 Proposal due (10 points). This should be a few sentences describing your chosen topic. It may be typed or hand-written. The grade will be based on content only.
- 3/23 Detailed outline or rough draft due (20 points). If you choose to submit an outline only, it should be at least one full page and contain most of the ideas that will appear in your final paper. It may be typed or hand-written. The grade will be based on content only.
- 4/27 Final paper due (70 points). This must be 5 to 10 pages typed (double-spaced). The grade will be based on mechanics, presentation, and content.

A list of further possible topics:

- four color problem
- party problem and Ramsey numbers
- The Tower of Hanoi
- random card shuffling
- Euler characteristic
- fractals
- Poincaré conjecture
- continuum hypothesis
- prime number theorem
- public key cryptography
- sphere packing problem (Kepler's conjecture)