

WRITING PROJECT DESCRIPTION

M220

Basic Parameters. The writing project will consist of a 5-10 page (double spaced, not including bibliography) paper on a topic chosen by you, subject to approval by Professor Rowell. Examples of appropriate topics are: a major theorem (eg. Fermat's Last Theorem), a famous mathematician (eg. L. Euler), a substantial application of mathematics to other areas of science or a major unsolved problem in mathematics. If you are unsure if your topic is appropriate, ask Prof. Rowell. The paper need not contain proofs, but must contain substantial mathematical content. Your target audience should be your classmates, so *should be understandable to anyone with a basic mathematical knowledge*. Your paper must contain a bibliography consisting of sources cited in your paper, and include at least 2 **static** works (that is, not an internet source like Wikipedia.org). Electronic-only sources are permitted, but should be kept to a minimum. As always, if in doubt, ask Prof. Rowell. Plagiarism should be avoided. Do not say that Wiles proved Fermat's last theorem in 1995 with providing some evidence, such as the journal article (Annals of Math.141 (3): 443551 (1995)). Your bibliography can be any style.

Sample Topics.

- Any Fields medalist (including the most recent ones)
- Any mathematician for which one can write 5-10 pages.
- Any of the Millennium Prize problems
- Topological Quantum Computing
- Euler Characteristic
- Gödel's Incompleteness Theorems
- Continuum hypothesis
- four-color theorem
- Classification of finite groups
- Markov's theorem for braids
- Hilbert's Nullstellensatz
- infinite monkey theorem
- isoperimetric problem
- Jordan curve theorem
- Prime number theorem