

# Term Paper Instructions

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The term paper for Math 336 should be a review of a mathematics article from journal such as the American Mathematical Monthly or the Mathematics Magazine. The review should be written to be read by other students in the class. You may assume they know about such topics as Fourier series, several variable analysis, and complex analysis, but are not familiar with technical terms and details that are in the paper being reviewed.

In a prominent place, either in the title or in the first paragraph you should give a precise reference to the article. If the reference occurs in the body of the text it should be in the form [1], and appear at the end of the review. References in mathematics papers are ordered alphabetically by last name of the first author of the paper. In mathematics journals, the authors' names in a multi-author paper are also ordered alphabetically.

The first paragraph or two should be a short summary of the contents of the paper. In these paragraphs technical terms should not be precisely defined, nor is it necessary to give exact statements of results. A short paraphrase is sometimes more appropriate. What is the aim of the paper? What is the intended audience? What are the most important results?

Following that spend a few paragraphs precisely defining terms and summarizing in technical language the results. You shouldn't list all lemmas, propositions, and theorems. Just the high points with an indication as to how they fit together (e.g the invariance of cross ratio under linear fractional transformations is used to prove that Mobius transformations are isometries for the Poincare disk in the hyperbolic metric.)

Then you should pick a result the you consider to be representative and important and give the details of its proof.

Finally, if possible, you should supply some missing details in the paper and/or show how the results or their techniques could be used to prove additional results. For example in the paper on Fermat's little theorem the author states that his method can be used to get other congruences. How is that done? This last stage is the most difficult and cannot always be easily done. But you should try, since it makes for a much richer paper.

## References

1. E. B. Curtis, D. Ingerman, and J. A. Morrow, Circular Planar Graphs and Resistor Networks, *Linear Alg. and its Appl.*, **283**(1998), 115-150.