

Math 300 Theorem Paper Rubric

Instructor: Jay Daigle
Occidental College

Your paper will be graded on the following rubric:

30 points **Style and Framing**

4 points: Title

The paper should have a clear title, give the name of the author and the author's college affiliation, and nothing else.

6 points: Abstract

Your paper should begin with an *abstract*, a 3-4 sentence sales pitch explaining what your paper covers and why one might be interested in it. Your abstract should explain what the main result or conclusion of your paper is; identify the main tool or tools used to reach that conclusion; and give some perspective on how this conclusion relates to other topics your reader may be interested in.

10 points: Context

Why should we care about this result? Why is it important or interesting? Explain how your result relates to the real world or to other interesting mathematical questions. What question were people trying to answer when they discovered this result?

10 points: Narrative

Your paper, like any good writing, should tell a story. What is the main point of your paper? How do the things you're saying tie together? If I only remember one thing from your paper, what should it be?

10 points: Writing style

Your paper should be well-organized, with transitions that flow from one section to the next. It should be free of obvious grammatical and spelling errors, and formatted legibly. (If the act of reading your paper is painful or unpleasant, this is where I can take points off).

30 points **Mathematical Content** I will evaluate the mathematical content of your paper. I won't break this down into sub-topics with fixed numbers of points because different papers will have different types of content in different ratios—for instance, some topics will require many definitions and some will require only one or two. I will be looking for a few things:

- The centerpiece of your paper should be your result and its proof.
Every claim should be stated clearly, precisely, and correctly, in formal mathematical language. When possible, claims should also be explained informally, to help readers figure out how to think about them.
- Your paper should clearly define any terms you expect your fellow math majors to be unfamiliar with, as well as any terms that are central to your paper. Definitions should be clearly and precisely stated, and ideally come with a sentence or two explaining how your readers should think about the concept being defined.
- Your proofs should be correct, clearly written, and display understanding of the details of the argument and the topic. Again, try to give a technical argument and also an explanation of how to think about it—an intuition or motivation.