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Proof Criteria

- Uses mathematical vocabulary.
- Uses logical thought and language.
- Uses correct techniques and principles.
- Requires more than one example.
- Statement of any "given" information or properties used in the proof.
- Claim is true for all cases.

Justification

Overall my opinions on the criteria to make a proof agree with my group. The most important characteristics to me are that the proof uses mathematical logic and reasoning to justify each step. So often I see students writing statements they believe are true (both in mathematics and life in general) without any reason or any support for their claims. If you are going to make a claim it must be supported by logic, theorems, and properties.

The second most important criteria for me was that the proof was generalized. My understanding of a proof is that it explains *why* something works in every case. In order for a proof to do this it needs to be generalized and explained for all possible scenarios not just a specific set of examples. Often in higher math it includes showing the calculations with variables but can also include mathematically sound explanations.

I can see using this criteria to help shape my direction of instruction so that my students have a sound base as they move on to the upper level mathematics. I can also see using these criteria to

help evaluate my students work. By having a set of criteria I will be able to evaluate and give

feedback to my students to help them improve their reasoning skills and improve their proofs.