

Guidelines for Presentations II

Topics

1. Prove the Law of Cosines (p. 113)
2. Prove the Pythagorean Thm. using AA (p. 107-108) and prove its converse using SSS (p. 109-110).
3. Prove the two statements about parallelograms found on p. 116.
4. Prove that the composition of two reflections across intersecting lines in a plane is equal to a rotation and prove the composition of two reflections across parallel lines in a plane is equal to a translation.
5. Describe the set of symmetries of a regular n -gon and prove that this set is a group.

Each group will be assigned one or two statements. During your presentation you are expected to give a rigorous proof of each statement and develop a lesson for middle school students which illustrates the statement. The guidelines are the same as before.

- Each member of the group needs to speak. The presentations should be at least 10 minutes long. You can have more time if you need. Every group should be prepared for November 20. We may be able to do them all in one day.
- A complete presentation will
 1. introduce and explain the statement/problem
 2. give examples and/or non-examples to illustrate
 3. include a rigorous proof
 4. discuss some questions or reactions that may come from the middle school students when this lesson is taught there.
- You MUST use some type of dynamic computer software during the presentation. This includes, but is not limited to, geogebra, google sketch-up, maple, or the online library of virtual manipulatives. Be creative. You can use the computer to illustrate any part of the presentation.
- Every member in the group will receive the same grade. Remember that your group will be graded in comparison with the other groups, so do your best. I can schedule times to meet with any group that wants my input on their presentation before they give it.