

1 Part 1

The first part of the exam will consist of between ten and twelve questions, and will be closed-book. Each problem will ask you to state one of the following.

1.1 Definitions

1. Same/opposite sides of a line.
2. Interior of an angle.
3. Perpendicular lines.
4. Hilbert plane.
5. semi-Euclidean plane.
6. Saccheri quadrilateral.
7. Lambert quadrilateral.

1.2 Theorems

1. Crossbar Theorem.
2. Corollary to SAS.
3. Alternate interior angle theorem.
4. Exterior angle theorem.
5. Proposition 4.12.
6. Non-obtuse angle theorem.

1.3 Axioms

1. Incidence Axioms I-III.
2. Betweenness Axioms I-IV.
3. Congruence Axioms I-VI.
4. Aristotle's Axiom.
5. Hilbert's Euclidean Axiom of Parallelism.
6. Euclid's Fifth Postulate.
7. Acute and obtuse angle hypotheses.

2 Part 2

The second part of the exam will consist of two types of questions:

1. Provide the justifications for the steps of a proof. (Two problems).
2. Prove a proposition (Choose two of three).

These will focus more on the material developed in the last chapter. To prepare, I recommend reviewing the homework problems and working through some additional proofs, given in the exercises on p. 228-235.