Examlet 3 **Advanced Geometry** **4/7/17**

1. a) State the Neutral Area Postulate.

b) State the Euclidean Area Postulate.

2. State and prove the Law of Sines.

3. Show that in the Euclidean plane if ℓ and ℓ' are lines cut by a transversal t and ℓ is parallel to ℓ', then two corresponding angles are congruent.

4. State and prove the Pythagorean Theorem (using similar triangles).

5. Prove that in the hyperbolic plane, a Saccheri quadrilateral must have the length of its altitude less than the length of its side.