Examlet 3 Advanced Geometry 4/12/13

1. a) State the definition of sin θ for an acute angle θ.

b) State the definition of a *square*.

c) State the definition of the *interior* of ΔABC.

2. a) State the Fundamental Theorem on Similar Triangles.

b) State the Law of Cosines.

c) State the Neutral Area Postulate.

3. Prove the Pythagorean Theorem.

4. Show that if $\square ABCD$ is a parallelogram, then the opposite sides are congruent.

5. Prove that if ℓ and m are distinct lines and there exist two different points of m that are on the same side of ℓ and equidistant from ℓ, then $\ell \parallel m$.