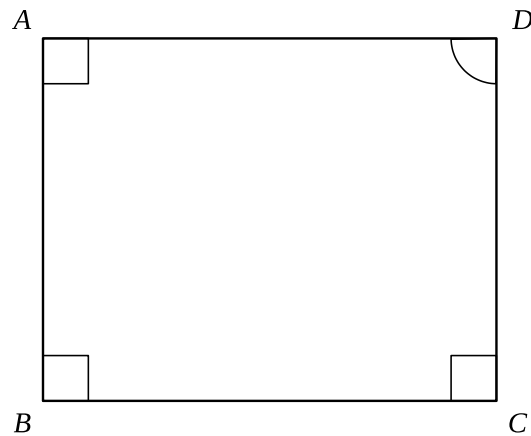# Mathematics 3260H – Geometry II: Projective and Non-Euclidean Geometry
Trent University, Fall 2019

Assignment #11

Due on Monday, 25 November.

A *Lambert quadrilateral*, named after Johann Heinrich Lambert (1728-1777), is a quadilateral $ABCD$ with right interior angles at the first three vertices. It is an alternative sort of would-be rectangle to a Saccheri quadrilateral.

1. Assuming Euclid's Postulates I-IV (as well as fix-ups such as the Separation and Application Postulates), show that the angle at D of a Lambert quadrilateral must be a right angle if and only if Postulate V holds. You may replace Euclid's statement of Postulate V with Playfair's Axiom. *[10]*