Mathematics 3260H – Geometry II: Projective and non-Euclidean geometry
Trent University, Winter 2015

Assignment #5=3+2*
Donkey matching?
Due on Thursday, 12 February, 2015.

The Angle-Side-Side congruence criterion does not always work in Euclidean space. For example, the triangles in the Cartesian plane with vertices at $(0,0)$, $(2,2)$, and $(1,0)$, and at $(0,0)$, $(2,2)$, and $(3,0)$, satisfy the Angle-Side-Side criterion, but are clearly not congruent.

Do *one* (1) of the following two problems.

1. Determine whether the Angle-Side-Side congruence criterion holds in the hyperbolic plane. *[10]*

2. Determine whether the Angle-Side-Side congruence criterion holds in the elliptic plane. *[10]*

In either problem, you may use whatever models of the non-Euclidean planes in question you wish to obtain your results.

* The Fibonacchi numbering of the assignments was suggested by Toby ...