

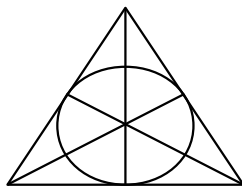
Mathematics 3260H – Geometry II: Projective and non-Euclidean geometry
TRENT UNIVERSITY, Winter 2015

Assignment #89 = 55 + 34*

The Fano-tastic finale!

Due on Thursday, 2 April, 2015.

Recall from Assignments #1 and #9, not to mention class and the text, that the Fano configuration is the smallest projective plane, consisting of seven points and seven lines, with each point incident with three lines and each line incident with three points.



1. Introduce coordinates in the Fano configuration and show – in detail! – that the resulting ternary ring is just $\mathbb{Z}_2 = \{0, 1\}$ (where $+$ and \cdot are done modulo 2). [10]

HINT: Brute force ...

* Thanks again to Toby for the suggestion of Fibonacci numbering for the assignments!