

**Mathematics 2260H – Geometry I: Euclidean geometry**

TRENT UNIVERSITY, Fall 2015

**Assignment # $\pi$**

**The Incredible Lightness of Being on Listwolme?**

*Due on Monday, 2 November, 2015.*

This is an extra assignment which would give you a larger pool from which the best five are chosen to count towards the final mark. (Really, though, it's just for fun! :-) Find and read the story *The New Physics: The Speed of Lightness, Curved Space, and Other Heresies* by Charles Sheffield, and answer the questions below.

1. Prove the standard Sharog-Paty Theorem quoted in the story without using any trigonometry. [3]
2. Prove the spherical version of the Sharog-Paty Theorem, also quoted in the story. You may use all the trigonometry you want to do so. [3]  
*Hint:* It might help to read up on spherical geometry in Chapter 1 of the textbook.
3. Give all the references you can find in *The New Physics* to actual persons, mathematical results, and physical theories, as well as historical events. [4]

NOTE: There are *lots*, and not all the references are to well-known things ...