Introduction to Knot Theory

29 June 2004

This document is a summary of the first of two lectures given by Elizabeth Denne to the illiMath04 REU students.

We begin with a general definition of a knot.

Def: A knot K is a homeomorphism $f : S^1\text{->} f(S^1) \subset R^3$

We may also think of a knot as the image of such a homeomorphism. In this sense, some examples of knots are shown below in figures 1 - 4.

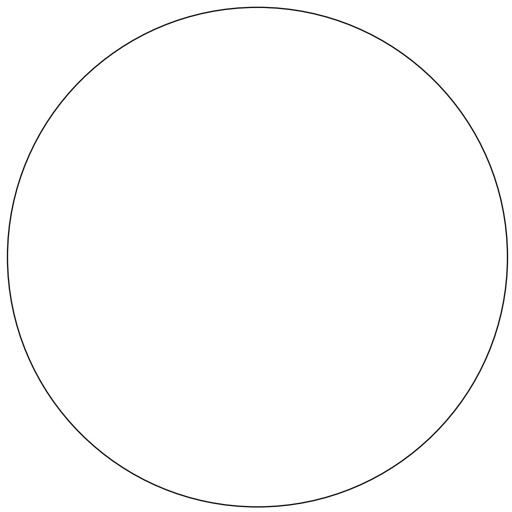

Figure 1: Trivial Knot

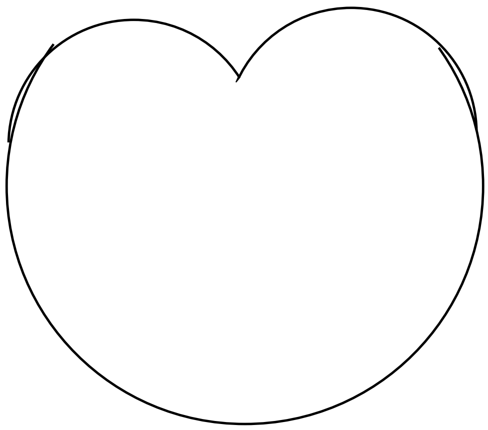

Figure 2: unknot

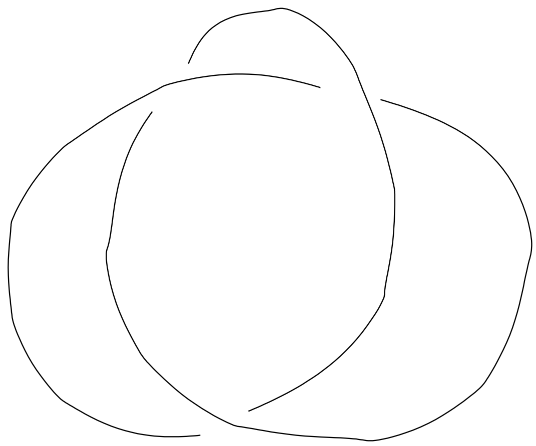

Figure 3: trefoil

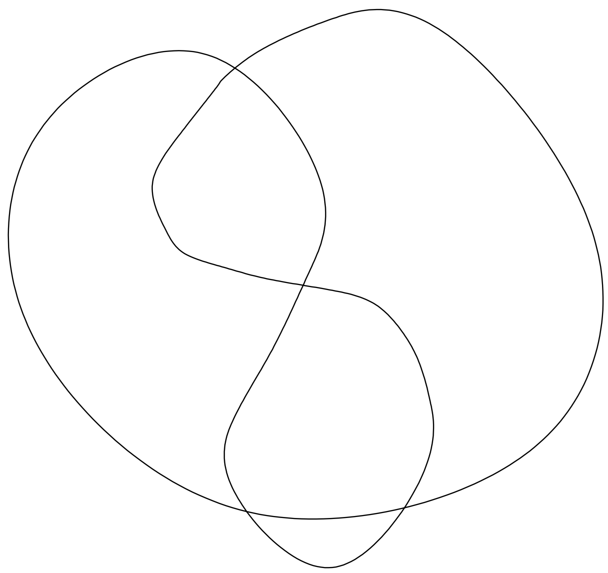

Figure 4: figure eight