Math 307, Fall 2010

Homework 1, due Friday, September 17

(1) Given three houses and three wells on a plane (or the surface of a sphere), there is no way to draw paths from each house to every well without at least two paths intersecting. Demonstrate that this is possible if the houses and wells are on a torus.

(2) Cut the Möbius strip along the center and draw the result.

(3) Describe a basis for the discrete topology.