Projects Math 302 Spring 2004

You may do one of the following longer projects for extra credit. These projects will
regain you up to 6 quiz points. The weekly extra credit projects will be worth one point
each. You cannot regain more than 15 points total. These points can replace points lost on
up to two quizzes. Projects are due the Friday before the last week of class.

1. Crochet a good chunk of a hyperbolic plane. You can find directions at
   http://www.mathsci.appstate.edu/~sjg/class/1010/wc/geom/crochet.html

2. Read a chapter (not just a section) of the book The Shape of Space, on reserve in
   the Math Library. For each section, write up a half page summary, and do the odd
   problems.

   at least a paragraph explaining the difference between extrinsic and intrinsic geometry.
   Then write your own short story (3 pages) about a figure living on the Poincaré disk.
   Make sure the adventures include something about finding the area of a polygon.

4. Search through the research papers on the Math ArXiv
   http://front.math.ucdavis.edu/
   until you find one that looks interesting. (One way could be to type your favorite
   math terms into the search box and see what comes up.) Write down every word in
   the abstract and the first page that you do not understand. For at least four of these
   words, find a definition in a math book or online (Wikipedia) and give an explanation
   in your own words (at least one paragraph).