Space: Its Light, Its Shape.

Chapter 10: The Hyperbolic Plane

Assignment: For Wednesday, February 16, 2005

- Read Chapter 10.
- Though everyone is responsible for reading all of the material and for working out all of the exercises, teams have been assigned specific material and exercises for which they are responsible in class presentations. You may want to come to class early to firm up and smooth out the exercises with your teammates.

Team 4: Describe and illustrate the three types of homogeneous two-dimensional geometries. Also discuss their curvatures.

Team 1: Create and bring to class a model of the hyperbolic plane as described in Exercise 10.1. (The teams members may wish to work together on this.)

Team 2: Create and bring to class the model described in Exercise 10.2. (The teams members may wish to work together on this.)

Team 3: How is the area of a triangle in the hyperbolic plane related to the sum of its angles? Present Exercise 10.3.

Team 4: Is there a maximum area for a triangle in the hyperbolic plane? Can any triangle every achieve this area?