

Space: Its Light, Its Shape.

Chapter 7: Flat Manifolds, Part II

Assignment: For Monday, February 7, 2005

- Read Chapter 7.
- 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: Define the hexagonal torus. What is its geometry like?

Team 1: Present Exercise 7.6

Team 2: Carefully illustrate how to physically glue together opposite edges of a hexagon to create the donut surface.

Team 3: In what ways is the hexagonal torus different from the usual flat torus?

Team 4: Describe how to determine how corners fit together when gluing sides of a polygon. Show this on the example give in Figure 7.16.

Team 1: What issue can arise at corner gluings when gluing sides of a polygon. How can we determine when this issue arises?

Team 2: Present Exercise 7.7.

Team 3: Present Exercise 7.10. Justify your answers.

Team 4: Redefine what it means to be a flat geometry. Present Exercise 7.11.

Team 1: Describe the hexagonal three-torus. Present Exercise 7.12.

Team 2: Present Exercise 7.13.