

**Math 110 – Mathematical Explorations**  
**Block 4 2005**  
**Team Problems #5, due Tuesday, December 20**

Complete these problems in a group of 3. You may change teams for different assignments if you want. Please make sure every member of your team participates in thinking about the problems. Also, please explain your solutions clearly.

Section 5.2: 35

Section 5.4: 37

**Extra Problem 1:** Draw a map of six countries on the Möbius band that are all adjacent to each other, thereby requiring six different colors to distinguish them. I suggest using an identification diagram of a Möbius band rather than an actual Möbius band.

**Extra Problem 2:** Create your own fractal. Draw a detailed picture of your fractal, showing the first few iterations. Describe your fractal-making rule, and find your fractal's dimension. Extra credit will be awarded for creativity and artistic design.