

MAT 331, Fall 2003

### **Project 3: Fractals**

*Due Wednesday, November 26*

In this project, you are asked to define a fractal of your choice whose box-counting dimension is  $\log 5 / \log 4$ . Describe clearly how you construct such a set and **prove** that its dimension is the requested number. Also, plot the first 6 approximating curves to the fractal, using either a TurtleCmd procedure or IFS (see <http://www.math.sunysb.edu/~mat331/Worksheets/IFS.mws>).

As always, pay attention to clarity of exposition; and describe what you do at each step from a mathematical viewpoint, not as a commentary on how to use Maple. In your proof you can use the results we proved in class.

**Bonus:** Do the same thing for a fractal of box dimension  $\log 7 / \log 4$ .