

Chapter 17: Random (and Deterministic) Fractals

Worksheet to accompany

David Feldman, *Chaos and Fractals: An Elementary Introduction*,
Oxford University Press, 2012

1. Draw a regular (deterministic) Koch curve. This is the same Koch curve we worked with last week.

2. Now draw a random Koch curve. Every time you make a “bump”, toss a coin. If the coin is heads, make the bump point up, and if it’s tails, make the bump point down. I’d suggest starting with a large initial line segment.

3. Now make a Koch-like curve but instead of a triangular bump, make a square one. (Make every bump upward. No need to toss any coins.) I’ll show you what this looks like on the board.
 - (a) What shape results?
 - (b) What is the dimension of the shape?