



The Fractal Geometry of the Mandelbrot Set

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September 30th 2010

In this lecture we describe several folk theorems concerning the Mandelbrot set. This set is the object that finally allowed us to understand the rich chaotic behavior that arises when simple quadratic functions are iterated. While this set is extremely complicated from a geometric point of view, we will show that, as long as you know how to add and how to count, you can understand this geometry completely. We will encounter many famous mathematical objects in the Mandelbrot set, like the Farey tree and the Fibonacci sequence. And we will find many soon-to-be-famous objects as well, like the "Devaney" sequence. There might even be a joke or two in the talk.