

I wonder if there is a point of period three in my office, given how chaotic it is.

The Trivial Notions Seminar
Proudly Announces

Period 3 Implies Chaos

A talk by
Erick Knight

Abstract

A famous result in real dynamics, due to Tian-Yian Li and James Yorke, states that if f is a continuous function from $\mathbb{R} \rightarrow \mathbb{R}$ that has a point of period three (i.e. $f^3(x) = x$ but $f^i(x) \neq x$ for $1 \leq i < 3$), then f has a point of all periods. In this talk, I will give an introduction to real dynamics with uncountably many examples, and then outline the proof of the theorem. At the end of the talk, I will give a generalization of period three implies chaos due to Oleksandr Mikolaiovich Sharkovsky (who actually proved his theorem 10 years before Yorke and Li proved theirs) which tells exactly which periods imply the existence of other periods.

Thursday November 7th, at 1:00 pm
Science Center 507