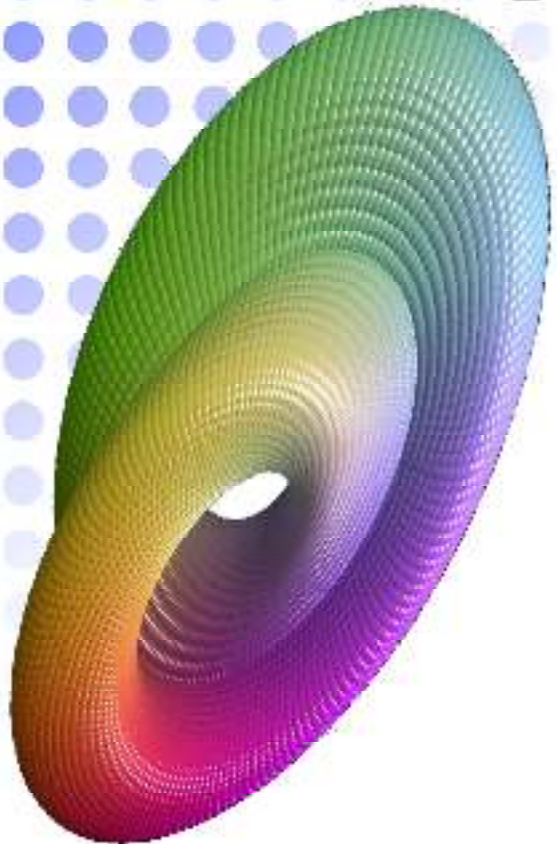
Michigan Math Club

Thursday at 4pm in the Commons

Free Pizza and Pop



Equally Spaced Perfect Squares

Zachary Scherr

Abstract for 4 Oct. 2012

How many consecutive perfect squares can be in arithmetic progression, i.e. be equally spaced? For example 1, 25, 49 is a three term arithmetic progression. We will find all such progressions of length 3, and will explain why there are no progressions of length 4. Time permitting, we will discuss higher powers. The techniques to solve such problems use number theory, geometry and the theory of elliptic curves.