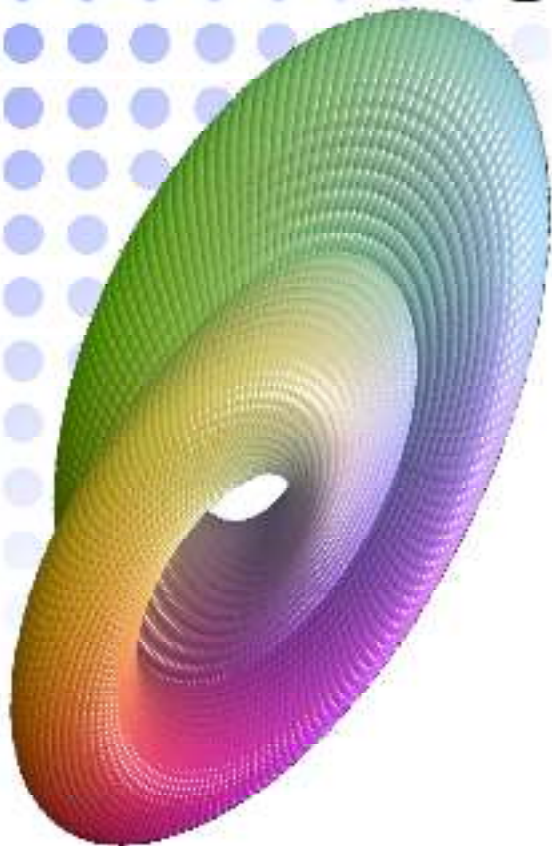# Michigan Math Club

Thursday at 4pm in the Commons
Free Pizza and Pop

Calculus (mod p)

Karen Smith

Abstract for 10 December 2009

Many students have seen some arithmetic "mod p", also known as clock arithmetic. On the other hand, what could be a derivative of some function mod p? In this talk I will explain differentiation (even second derivatives etc.) mod p in a purely algebraic way. I will not use any limits (or deltas or epsilons or other infinitesimal ideas). There is a neat connection between this and other "mod p" operations that leads to some deep modern mathematics.