

# Michigan Math Club

Thursday at 4pm in the Nesbitt Room  
Free Pizza and Pop



## Topological methods for some arithmetic questions

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Abstract for 22 September 2016

Fix a positive integer  $d$  and a prime  $p$ . We ask the question: how many monic square-free polynomials of degree  $d$  modulo  $p$  are there? We will discuss two different approaches to answering this question, one of which involves counting monic square-free polynomials of degree  $d$  with some non-vanishing condition. The goal of this talk is to demonstrate that arithmetic information can be seen as a topological invariant.

