

# Michigan Math Club

Thursday at 4pm in the Commons  
Free Pizza and Pop



## Bezout's Theorem

Prof. Karl Schwede

Abstract for 25 September



How many times can a line intersect a quadratic polynomial? You probably said the answer is zero, one, or two. How many times can two ellipses intersect? What if you count imaginary or complex intersection points? Do parallel lines ever intersect? What if we change the rules of the game and consider parallel lines in a twisted pac-man-like world? Bezout's theorem tells us exactly how many times two implicit polynomial curves intersect, provided you count complex intersections, intersections at infinity (where parallel lines meet up), and double/triple/multiple roots correctly.