Michigan Math Club

Thursday at 4pm in the Commons
Free Pizza and Pop

On Polynomial Identity Testing and Some Applications

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Abstract for 19 March 2015

Testing whether a given polynomial P(x) is identically zero is, perhaps, the most fundamental task related to polynomials. Of course, this task is trivial when P(x) is given to us as a list of monomials. But what if the polynomial is given to us "implicitly" computed by a "small" device? A prominent example of such computation is a smart card.

In this talk we study the formal model of implicit computations—the Arithmetic Formula—and discuss the Polynomial Identity Testing problem with respect to this model as well as some applications.