Number Theory Seminar

Quadratic Polynomials, Period Polynomials and Hecke Operators

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ABSTRACT: For non-square $D \equiv 0, 1 \pmod 4$ and positive even integer k, define a function $F_k(D; x)$ as follows: For $x \in \mathbb{R}$, consider the set of polynomials $aX^2 + bX + c$ with integer coefficients and discriminant D such that $a < 0 < ax^2 + bx + c$. For each such polynomial, compute $(ax^2 + bx + c)^{k-1}$ and then add the resulting values. Here we use the theory of periods to give identities and congruences which relate various values of $F_k(D; x)$.

Tuesday, November 13, 2012
3:30 - 4:30 PM
Room 527 Wachman Hall
Department of Mathematics