Mark Kozek\* (mkozek@whittier.edu), Mathematics Department, Whittier College, Whittier, CA 90608-0634. An asymptotic formula for Goldbach’s conjecture with monic polynomials.

Let \( f(x) \) be a monic polynomial in \( \mathbb{Z}[x] \) of degree \( d > 1 \). Hayes (1965) proved a form of Goldbach’s conjecture with monic polynomials: there exist irreducible monic polynomials \( g(x) \) and \( h(x) \) in \( \mathbb{Z}[x] \) with the property that \( f(x) = g(x) + h(x) \).

We give a proof that the number \( R(y) \) of representations of \( f(x) \) as a sum of two irreducible monic polynomials \( g(x) \) and \( h(x) \) in \( \mathbb{Z}[x] \), with the coefficients of \( g(x) \) and \( h(x) \) bounded in absolute value by \( y \), is asymptotic to \( (2y)^{d-1} \). (Received September 22, 2009)