1086-11-553 **Joshua Harrington***, Department of Mathematics, University of South Carolina, 1523 Greene Street, Columbia, SC 29208, and **Michael Filaseta**. *A polynomial investigation inspired by work of Schinzel and Sierpiński.*

In 1960 Sierpiński proved that there are infinitely many odd positive integers k such that $k \cdot 2^n + 1$ is composite for all positive integers n. A polynomial variation of Sierpiński's result has been investigated by several people. More specifically, the question has been asked, for which integers d does there exist a polynomial $f(x) \in \mathbb{Z}[x]$ with $f(1) \neq -d$ such that $f(x) \cdot x^n + d$ is reducible over the rationals for all positive integers n. In 1967 Schinzel proved that there exists such a polynomial for $d \equiv 0 \pmod{12}$. This result was then extended in 2002 by Michael Filaseta who proved that such a polynomial exists for $d \equiv 0 \pmod{4}$. It was then shown in 2009 by Lenny Jones that one can find such a polynomial for infinitely many $d \equiv 6 \pmod{12}$. In this talk we further investigate this problem and improve upon previously known results. (Received September 06, 2012)