Dirichlet’s Theorem on Arithmetic Progressions, an important result in prime number theory, states that any linear sequence \( \{an + b : n \text{ a positive integer}\} \) with \( \gcd(a, b) = 1 \) contains infinitely many primes. However, very little is known about nonlinear polynomial sequences. In this talk, we look at how \( m^2 + 1 \) factors when \( m \) is chosen to be an appropriate polynomial. This includes the use of continuants, a tool usually seen in conjunction with continued fractions, and Keller maps, polynomial maps associated with the famous Keller Jacobian Conjecture. (Received September 14, 2018)