

1145-11-58

Noah Lebowitz-Lockard* (noah.lebowitz125@uga.edu). *Irreducible quadratic polynomials and Euler's function.*

Let $V(x)$ be the number of $n \leq x$ for which $\varphi(m) = n$ for some n , where φ is Euler's totient function. In 1929, Pillai proved that $V(x) = o(x)$, i.e. that almost all numbers lie outside the range of the totient function. We discuss a generalization of this result, specifically that for a given irreducible quadratic polynomial $P(x)$, almost all numbers of the form $P(n)$ lie outside the range of the totient function as well. We put bounds on the number of $n \leq x$ with this property and show how we can improve them assuming the abc and Bateman-Horn Conjectures. (Received July 11, 2018)