Russell Euler and Jawad Sadek
An Extension of the Periodicity of an Extended Fibonacci Family, Fibonacci Quart. 53 (2015), no. 4, 335-339.


#### Abstract

The Fibonacci congruence $F_{\phi(m)+n} \equiv F_{n}\left(\bmod \frac{m}{d}\right)$ has been extended to Pell numbers, Lucas numbers, and Pell-Lucas numbers, where $\phi$ is the Euler phi-function, $m=a^{2}-a-1, d=(2 a-1, m), a \geq 2$ is an integer, and $(x, y)$ denotes the greatest common divisor of the integers $x$ and $y$. We prove that the generalization holds for a larger class of integers than the one containing the integers of the form $m=a^{2}-a-1$.


