

1135-11-680

John Cullinan* (cullinan@bard.edu), Department of Mathematics, Annandale-On-Hudson, NY 12401. *Arithmetic Properties of Jacobians of Curves Defined by the Generalized Laguerre Polynomials.*

Let $L_n^{\langle\alpha\rangle}(x) = \sum_{j=0}^n \binom{n+\alpha}{n-j} \frac{(-x)^j}{j!}$ be the n th Generalized Laguerre Polynomial. In this talk we explore the arithmetic of the algebraic curves $\mathcal{L}(n)/\mathbf{Q}$ defined by $L_n^{\langle\alpha\rangle}(x) = 0$, viewed as a two-variable polynomial over \mathbf{Q} , and their Jacobians $\mathcal{J}(n)/\mathbf{Q}$. We introduce a conjecture for the endomorphism ring, Mordell-Weil group, and image of the ℓ -adic representations of the $\mathcal{J}(n)$ for all $n \geq 4$. (Received September 12, 2017)