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**Paul Pollack\*** (pollack@uga.edu), Mathematics Department, Boyd Graduate Studies Research Center, University of Georgia, Athens, GA 30602, and **Lola Thompson**. *The degrees of the polynomial divisors of  $x^n - 1$ .*

We discuss what is known about the following questions concerning the degrees of the divisors of  $x^n - 1$  in  $\mathbb{Z}[x]$ , as  $n$  ranges over the natural numbers:

1. How often does  $x^n - 1$  have **at least one** divisor of each degree  $0 \leq m \leq n$ ?
2. How often does  $x^n - 1$  have **at most one** divisor of degree each degree  $0 \leq m \leq n$ ?
3. How often does  $x^n - 1$  have **exactly one** divisor of each degree  $0 \leq m \leq n$ ?
4. For a given  $m$ , how often does  $x^n - 1$  have a divisor of degree  $m$ ?

Time permitting, we will also discuss what changes if  $\mathbb{Z}$  is replaced by the finite prime field  $\mathbb{F}_p$ . These results represent work of Lola Thompson in her Ph.D. thesis as well as recent joint work of Lola with the speaker. (Received September 02, 2012)