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Oscar G Villareal* (ovillare@iun.edu), IU Northwest, Mathematics and Actuarial Sciences
Department, HH room 437, Gary, IN 46408. *On the Degree of a Torsion Point for Certain Abelian
Varieties in Characteristic p .*

Let k be a field of positive characteristic p , \bar{k} an algebraic closure, and let A be an abelian variety defined over k . Assume that $\text{End}_{\bar{k}}(A) = \mathbb{Z}$ and let $g = \dim A$. Let ℓ be a prime number, and suppose P is an ℓ torsion point. We show that there exist positive constants ℓ_0, C such that for every $Q \in A(\bar{k})$ with $\ell Q = O$, we have $[k(Q) : k] \geq C\ell^{1/2g}$ for $\ell \geq \ell_0$. We use this lemma to give results in the direction of the Geyer-Jarden Conjecture. (Received February 11, 2014)