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Nicholas Werner* (werner@math.osu.edu), Department of Mathematics, 231 West 18th Ave,
Columbus, OH 43210. *Integer-valued Polynomials on Subsets of a Noncommutative Ring.*

Given an integral domain D with quotient field K and a subset $S \subseteq D$, the set $\text{Int}(S, D) = \{f(x) \in K[x] \mid f(S) \subseteq D\}$ is always a ring. However, if instead we consider a noncommutative ring R contained in a division ring \mathcal{D} and a subset $S \subseteq R$, then the set $\text{Int}(S, R) := \{f(x) \in \mathcal{D}[x] \mid f(S) \subseteq R\}$ may or may not be a ring; it depends on S and R . We will explore this construction in the case of a particular quaternion algebra over \mathbb{Z} . (Received February 14, 2010)