1046-05-1782 **Marshall M Cohen*** (marshall.cohen@morgan.edu), Department of Mathematics, Morgan State University, 1700 East Cold Spring Lane, Baltimore, MD 21251. *Elements of Finite Order in the Riordan Group.*

Suppose that D is an integral domain of characteristic zero and D^* is the group of units in $D - \{0\}$. The **Riordan group** over D, denoted $\mathcal{R}(D)$. is the set of ordered pairs (g, f) of formal power series over D where $g(z) = \sum_{n=0}^{\infty} g_n z^n \quad f(z) = \sum_{n=1}^{\infty} f_n z^n, \quad g_0, f_1 \in D^*$, The operation is a combination of series multiplication and formal composition of series (substitution) given by

$$(g, f)(G, F) = (g \cdot (G \circ F), F \circ f)$$

Theorem: If (g, f) has finite order in $\mathcal{R}(D)$ then $\operatorname{order}(g, f)$ is the least common multiple of the orders of g_0 and f_1 in D^*.

Corollary: The order of an element of finite order in the Riordan group over $\mathbb{R}$ (or $\mathbb{Q}$ or $\mathbb{Z}$) is either one or two. (Received September 16, 2008)