

1023-08-872

Amber Rosin* (arrosin@csupomona.edu), Department of Mathematics and Statistics, 3801 West Temple Ave, Pomona, CA, and **Berit Nilsen Givens** (bngivens@csupomona.edu) and **Karen Linton** (kalinton@csupomona.edu). *A Class of Interassociates of the Bicyclic Semigroup*. Preliminary report.

Given a semigroup (S, \cdot) , an interassociate of S is a semigroup with the same underlying set S and a binary operation $*$ such that $a \cdot (b * c) = (a \cdot b) * c$ and $a * (b \cdot c) = (a * b) \cdot c$. We consider the bicyclic semigroup (C, \cdot) defined by $C = \{q^i p^j : i, j \geq 0\}$ with relation $p \cdot q = 1$. In particular we look at the class of interassociates of C defined by the operations $x *_{n,0} y = x \cdot q^n \cdot y$ and $x *_{0,n} y = x \cdot p^n \cdot y$. We investigate the structure of these interassociates, focusing on their idempotents and generating sets. Using these tools we show that $(C, *_{n,0})$ and $(C, *_{0,n})$ are anti-isomorphic and that $(C, *_{n,0})$ and $(C, *_{m,0})$ are not isomorphic if $n \neq m$. (Received September 25, 2006)