1037-05-358

Tristan Denley* (tdenley@olemiss.edu), Department of Mathematics, University of Mississippi, PO Box 1848, University, MS 38677, and Jaromy Kuhl (jkuhl@uwf.edu), Department of Mathematics, University of Western Florida. *Completing and Avoiding Partial Latin Squares*.

The Evans conjecture stated that partial Latin square of order n with at most n-1 entries can be completed. Independently this was confirmed by Haggkist for n > 1111, and in general by Smetanuik, and Anderson and Hilton. We will present recent results that generalize this idea to r-multi Latin squares. In particular we shall show that a partial r-multi Latin square of order n with at most n-1 entries can be completed. Using this generalization, we confirm a case of a conjecture of Haggkvist. Similar ideas can also be used to answer questions about avoiding partial Latin squares. We shall use these ideas to show that a partial generalized sudoku square can always be avoided by some generalized sudoku. (Received February 05, 2008)