1067-11-374 Nigel Boston* (boston@math.wisc.edu), Department of Mathematics, University of Wisconsin, Madison, WI 53705. Combining Group Theory and Number Theory Computations.

A few years ago, Charles Leedham-Green and I introduced a pruned version of p-group generation that computes certain Galois groups of interest to number theorists. This was adapted by Michael Bush and Harris Nover to perform massive computations of Galois groups of p-class towers. Refinements of this method with Jordan Ellenberg yield heuristics, some proven, for counting such extensions. Recently, with various collaborators, I have been extending these computations to obtain some non-abelian Cohen-Lenstra heuristics. (Received August 30, 2010)