1044-20-1

Mark V. Sapir^{*}, Vanderbilt University, Department of Mathematics, Nashville, TN 37240. Geometry of groups, random walks, and polynomial maps over finite fields.

I will show how to prove that most 1-related groups are residually finite (i.e. their finite index subgroups intersect trivially). Although the result is purely algebraic, the proof employs methods from very diverse areas of mathematics: from analysis (Brownian motion in \mathbb{R}^n) to algebraic geometry (properties of quasi-fixed points of polynomial maps over finite fields related to a Deligne conjecture). (Received June 07, 2007)