1122-20-14 **Luise-Charlotte Kappe*** (menger@math.binghamton.edu), Binghamton University, Department of Mathematical Sciences, Binghamton, NY 139026000. *A question of Paul Erdös and its answer in groups, loops, rings and semigroups.*

In 1975, Paul Erdös asked the question if there exists a finite bound on the cardinality of sets of pairwise noncommuting elements in a group provided every such set is finite. The question makes sense in loops, rings and semigroups as well. The short answer for groups and rings is yes and no in the case of loops and semigroups.

B.H. Neumann answered Erdös' question in the affirmative by showing that every such group is central-by-finite and that the converse also holds. A similar result holds for rings. In the case of groups and rings we present other conditions equivalent to central-by-finite. In the case of loops and semigroups we are looking for sufficient conditions on the structures assuring a finite bound on the sets of pairwise noncommuting elements. (Received June 16, 2016)