

Title: Commuting Probabilities of Semigroups and Quasigroups

Abstract: In contrast to the case of groups and rings, there are no nontrivial restrictions on the possible commuting probabilities of semigroups and quasigroups, even if we assume the presence of an identity element. We prove this, and additionally determine the minimal order of a semigroup, and the minimal order of a quasigroup whose commuting probability equals any specified rational value in $(0, 1]$.