

Geometrija nekih specijalnih klasa IM-kvazigrupa

Geometry of some special subclasses of IM-quasigroups

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Abstract: The concept of idempotent medial quasigroup, or shorter IM-quasigroup, is defined as a quasigroup whose elements satisfy the identities of idempotency and mediality. Motivated by the basic example $C(q)$ some geometric concepts can be defined in an IM-quasigroup. Many subclasses of IM-quasigroups have been defined and studied. We mention some of them (GS-quasigroups, quadratical quasigroups, hexagonal quasigroups and pentagonal quasigroups) and study their algebraic and geometric properties. In each of these classes the concept of the parallelogram and the midpoint of a segment can be defined. Some other interesting geometric concepts can be defined in different classes, e.g. regular triangles and hexagons in hexagonal and regular pentagons and decagons in pentagonal quasigroups. We present some of these results and give some examples and illustrations. We also give some examples and constructions of finite IM-quasigroups in which some of defined geometric concepts have rather unexpected properties.