

here  $(a, q)_n = (1 - a)(1 - aq) \cdots (1 - aq^{n-1})$  is  $q$ -shifted factorial.

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## Some examples of even quandles and their automorphism groups

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Quandles are non-associative algebraic structures that are idempotent and distributive. The concept of quandles is still relatively new. Hence, this work is aimed at developing a new method of constructing quandles of finite even orders. Inner automorphism groups of the examples were obtained. The centralizer of certain elements of the quandles constructed were also obtained, and these were used to classify the constructed examples up to isomorphism.

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## On semicommutative semigroups and abelian polygons

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We introduce the notions of semicommutative semigroups and abelian  $S$ -polygons by analogy with the notions of semicommutative, abelian modules and rings investigated in [1] and [2].

**DEFINITION 1.** We say a semigroup  $S$  is a semicommutative semigroup if for any  $x, y \in S$ ,  $xy = 0$  implies  $xSy = 0$ .

**PROPOSITION 1.** For a semigroup  $S$  the following three statements are equivalent: