

## USING NON ASSOCIATIVE FINITE PSEUDO FIELDS

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In this paper we construct a new algebraic structure called pseudo fields of order  $n^2$ ,  $n > 3$  and  $n$  an odd integer and prove for every such integer  $n$  there exists one and only one pseudo field. We then generalize the concept of pseudo fields to pseudo rings. in fact we prove for a given odd integer  $n$ ,  $n > 3$  there are several pseudo division rings. We define a pseudo field  $P$  as a set closed with respect to two binary operations "+" and "." such that  $(P, +)$  is an additive abelian group.  $(P, .)$  is a commutative loop under ".". In general  $a.(b + c)$  is  $\neq a.b + a.c$  for all  $a, b, c$  in  $P$ . "." is not in general associative. We prove if the order of  $P$  is prime then  $P$  has no proper subset which is a pseudo field.

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