

ABSTRACT

The nonempty set S with a binary operation " \cdot " which is associative is called semigroup. Two elements x and y from semigroup S called mutual anti-inverse if $xyx = y$ and $yxy = x$. A semigroup S is called anti-inverse semigroup if every element of S has an anti-inverse element in S . Each anti-inverse semigroup is regular semigroup. In the anti-inverse semigroup there exists a subsemigroup that forms the group. In the semigroup S , two elements are called mutual anti-inverse, if and only if S is *abelian* group and the inverse of each element is itself.

Keywords : semigroup, anti-inverse semigroup, *quaternion* group, *Klein* group.