RETRACTS AND \( Q \)-INDEPENDENCE

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Dedicated to the memory of Professor Kazimierz Glazek

Abstract

A non-empty set \( X \) of a carrier \( A \) of an algebra \( A \) is called \( Q \)-independent if the equality of two term functions \( f \) and \( g \) of the algebra \( A \) on any finite system of elements \( a_1, a_2, \ldots, a_n \) of \( X \) implies \( f(p(a_1), p(a_2), \ldots, p(a_n)) = g(p(a_1), p(a_2), \ldots, p(a_n)) \) for any mapping \( p \in Q \). An algebra \( B \) is a retract of \( A \) if \( B \) is the image of a retraction (i.e. of an idempotent endomorphism of \( B \)). We investigate \( Q \)-independent subsets of algebras which have a retraction in their set of term functions.

Keywords: general algebra, term function, \( Q \)-independence, \( M, I, S, S_0, A_1, G \)-independence, \( t \)-independence, retraction, retract, Stone algebra, skeleton and set of dense element of Stone algebra, Glivenko congruence.

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References


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