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Monotonic valuations of $\pi\sigma$-triads and evaluations of ideals

Comment.Math.Univ.Carolinae 34,1 (1993) 23-32.

Abstract: We develop problems of monotonic valuations of triads. A theorem on monotonic valuations of triads of the type $\pi\sigma$ is presented. We study, using the notion of the monotonic valuation, representations of ideals by monotone and subadditive mappings. We prove, for example, that there exists, for each ideal J of the type π on a set A, a monotone and subadditive set-mapping h on $P(A)$ with values in non-negative rational numbers such that $J = h^{-1''}\{r \in Q;\, r \geq 0 \ \& \ r \doteq 0\}$. Some analogical results are proved for ideals of the types σ, $\sigma\pi$ and $\pi\sigma$, too. A problem of an additive representation is also discussed.

Keywords: monotonic valuations, ideal, semigroup
AMS Subject Classification: O3E70, 93A15, 20M14