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**George F. McNulty\*** (mcnulty@math.sc.edu), Department of Mathematics, University of South Carolina, Columbia, SC 29208, and **Zoltan Szekely** and **Ross Willard**. *The equational complexity of Višin's algebra*. Preliminary report.

The **equational complexity** of a variety  $\mathcal{V}$  of finite signature is the function  $\beta_{\mathcal{V}}$  from the positive integers into the natural numbers so that  $\beta_{\mathcal{V}}(n)$  is the least natural number  $\ell$  for which any algebra  $\mathbf{B}$  of cardinality less than  $n$  belongs to  $\mathcal{V}$  if and only if each equation of length less than  $\ell$  which is true in  $\mathcal{V}$  is also true in  $\mathbf{B}$ . Every variety of finite signature has an equational complexity function. Take the equational complexity of an algebra to be the equational complexity of the variety generated by the algebra. Any algebra of finite signature which has a finite equational base must have equational complexity bounded by a constant.

In 1963 Višin published an example of a 4-element groupoid which has no finite equational base.

**Theorem**

*The equational complexity of Višin algebra dominates some strictly increasing linear function and, in turn, is dominated by  $42n^2 + 51n - 8$ .*

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