

1016-03-225

Michael C Laskowski* (mcl@math.umd.edu), Department of Mathematics, University of Maryland, College Park, MD 20742. *More than counting quantifiers.*

If an L -theory T is trivial and strongly minimal, then the $L(M)$ -theory $Th(M_M)$ is model complete, hence Π_2 -axiomatizable for every model M of T . Consequently, $Th(M_M)$ is computable in $0''$ for any computable model M of such a T .

It is natural to ask whether these results are sharp, either model- or computability-theoretically. The two questions are not the same. On one hand, we characterize the trivial, strongly minimal theories T for which $Th(M_M)$ is axiomatized by $L(M)$ -sentences, each of which is a Boolean combination of universal sentences for some (equivalently for every) model M of T and see that there are many such theories T for which $Th(M_M)$ does not have such an axiomatization. On the other hand, it is much harder to produce an example of a trivial, strongly minimal theory and a computable model M for which $Th(M_M)$ is not computable in $0'$. My coauthors find an example by constructing a class of trivial, strongly minimal theories capable of coding infinite sets.

This is joint work with Bakhadyr Khoushainov, Steffen Lempp, and Reed Solomon. (Received February 13, 2006)