

1040-20-25

Pavel Shumyatsky* (pavel@mat.unb.br), Department of Mathematics, University of Brasilia, Brasilia, DF 70910-900, Brazil. *Varieties of groups and the Restricted Burnside Problem.*

A variety is a class of groups defined by equations. Zelmanov's solution of the Restricted Burnside Problem shows that the class of locally finite groups of exponent n is a variety. We consider the following problem.

Let $n \geq 1$ and w a group-word. Consider the class of all groups G satisfying the identity $w^n \equiv 1$ and having the verbal subgroup $w(G)$ locally finite. Is that a variety?

Zelmanov proved that the answer is positive if $w = x$. We show that the answer is positive for many other words w . (Received January 04, 2008)