1086-20-1599   **Alexander Ushakov***, Stevens Institute of Technology, Castle Point on Hudson, Hoboken, NJ 07030. *Algorithmic theory of free solvable groups: randomized computations.*

We devise new deterministic and randomized algorithms for algorithmic problems in free solvable groups. In particular, we prove that the word problem and the power problem can be solved in quasi-linear time by Monte-Carlo type algorithms. (Received September 23, 2012)