

Problem #65

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Summary: Is the system of Cohen and Watson for arithmetic terminating?

An interesting system for doing arithmetic by rewriting was presented in [CW91]. Unfortunately, its termination has not been proved.

Remark

Termination of a related system is proved in [WZ95].

Bibliography

- [CW91] D. Cohen and Phil Watson. An efficient representation of arithmetic for term rewriting. In Ronald. V. Book, editor, *4th International Conference on Rewriting Techniques and Applications*, volume 488 of *Lecture Notes in Computer Science*, pages 240–251, Como, Italy, April 1991. Springer-Verlag.
- [WZ95] H. R. Walters and Hans Zantema. Rewrite systems for integer arithmetic. In Jieh Hsiang, editor, *6th International Conference on Rewriting Techniques and Applications*, volume 914 of *Lecture Notes in Computer Science*, pages 324–338, Kaiserslautern, Germany, April 1995. Springer-Verlag.