Various approaches have been invented for enabling an automated theorem proving program to find proofs in set theory. The present approach is completely automatic and easily solves many problems that are showcased as challenge problems for provers in set theory. In fact, this procedure finds proofs of several of these examples without search.

We implement the comprehension schema by means of tableau reduction and expansion rules. We also discuss special rules for handling equality effectively and in a tractable way in conjunction with the set theoretic rules. (Received January 07, 2002)