## Index of Terms

Absolute equality 149 Accepted – in space 277 Accepted – in time 277 Acceptor 277 Arithmetical hierarchy 13 Arithmetization of metamathematics 20 Axiomatic theory 7 Axioms, special 7 Axioms, logical 7

Bertrand's postulate 50 Binary search 339 Bounded arithmetic 271 Bounded collection axiom 328 Bounded prenex normal form 76 Bounded recursion 335 Buss's witnessing theorem 349

Cardinality 42 Closure 337 Coding finite sets and sequences 37 Coding of finite sequences 17 Collection 44 Collection axiom given 61 **Comprehension 45** Computation of a Turing machine 330 Concatenation 19 **Connectives** 6 **Conservative extension 148** Consistency of a theory 376 Consistency statement 163 Consistency, bounded 411 Consistency, cut-free 376 Consistency, Herbrand 376 Consistency, restricted 376 **Consistent 8** Consistent 99 Constants 6 Contain a theory 150

Counterexample 355 Counting problem 409 Craig's theorem 166 Cut 215, 218, 367, 407 Cut (definable) 172 Cut, extendable 237 Cut, proper 218 Cut, Ramsey 237 Cut, semiregular 235 Cut, short 234 Cut, unbounded 236 Cut-rank 373 Decidable 23 Decidable 99 Deduction rules 7 Deductively equivalent 166 Definable 7 Definable element 222 Definable subset of a model 215 Definable ultrapower 216 Defines a total function 47 Designated variables 125 Diagonal lemma 158 Divide 33 Dot notation 14 Doubly conservative 197 Elementary substructure 219 End-extension 215 Envelope 246 Equality 6 Equality absolute 6 Essentially reflexive 168 **Evaluation 6** Evaluation of variables 103 Even 34 Exponential time 278 Exponentiation 18, 36