

Index of Names

Abrusci, Vito 391
Ackermann, Wilhelm 58, 70 71, 72, 138
Adler, Andrew 219, 220, 264
Alexander the Great 1
Anatolius of Alexandria 140
Archimedes 162, 177
Argand, Jean Robert 195, 196
Aristotle 16

Babbage, Charles 6, 93, 136
Bachet de Méziriac, Claude-Gaspar 141
Baker, Alan 238
Bashmakova, I.G. 136, 141, 262
Becker, O. 141
Bell, Eric Temple 141, 262
Bell, John 139
Bellenot, Steven 138
Bernays, Paul 308, 392
Bernoulli, Jakob 14, 136
Bernoullis 195
Bernstein, Felix 22
Bertrand, Joseph Louis François 69, 223, 224
Bishop, Errett 16
Bollman, Dorothy 199, 200, 263
Bolyai Farkas (Wolfgang Bolyai) 196
Bolyai János (Johann Bolyai) 195, 196
Bolzano, Bernard 15
Bombelli, Rafael 141
Boole, George 136
Boolos, George 384
Brahmagupta 162, 165
Brouncker, Lord William 162, 163, 165
Brouwer, L.E.J. 16, 19, 269
Büchi, J. Richard 374, 393
Bucé, Abbé 195, 196
Burke, Michael 139

There be of them, that have left a name behind
them, that their praises might be reported.

—Ecclesiastes

Calinger, Ronald 136, 137
Calude, Christian 138
Campbell, Baron 398
Cantor, Georg 14 - 15, 16, 17, 18, 19, 22, 55,
137, 268
Cardano, Geronimo 2
Cassels, J.W.S. 265
Cauchy, Augustin Louis 15
Cegielski, Patrick 330, 332, 333, 334, 392
Chandrasekharan, K. 138, 224, 264
Chebyshev, Pafnuty L. 69, 223, 224
Ch'in Chiu-shao 47 - 48, 51, 137
Chudnovsky, Gregory 193, 194, 195, 263
Church, Alonzo 94, 139, 372

Davis, Martin 139, 143, 144, 149, 153, 158,
195, 199, 200, 209, 231, 262
Dedekind, Richard 15, 17, 57, 58, 137, 270,
271, 273, 276, 373, 374
Dee, John 16
Dekker, J.C.E. 128, 364
Denef, Jan 209, 263
Dickson, Leonard Eugene 137
Digby, Kenelm 163
St. Dionysius 140
Diophantus of Alexandria 1, 2, 136, 140, 141,
162, 262
Dirichlet, Gustav Peter Lejeune 165, 167, 170,
171
Dowling, William 139
van den Dries, Lou 200, 210
du Bois-Reymond, Emil 268, 269, 390, 391
du Bois-Reymond, Paul 19, 268
Dyson, Verena Huber- 366

Ebbinghaus, Heinz-Dieter 139, 391
Ehrenfeucht, Andrzej 260, 265, 365, 366

- Enderton, Herbert B. 392
 Ershov, Yu. L. 393
 Euclid 20, 69
 Eudoxus 177
 Euler, Leonard 44, 143, 172, 173, 174, 195, 263, 268
 Eves, Howard 136

 Farey, J. 22
 Faustus, Johann 289
 Fauvel, John 137
 Feferman, Solomon 330, 333, 365, 366
 Fermat, Pierre de 141, 142, 143, 162, 163, 165, 269
 Fermat, Samuel 141
 Ferrante, Jeanne 393
 Ferrari, Ludovico 2
 Fibonacci (Leonardo of Pisa) 57
 Flum, Jörg 139, 391
 Fraïssé, Roland 393
 Frobenius, Georg 327, 392
 Fueter Rudolf 23, 24

 Galilei, Galileo 15, 16, 17, 19, 137
 Gallier, Jean 391
 Galois, Evariste 81
 Gauß, Karl Friedrich 143, 195, 196
 Genise, Ron 139
 Ginsburg, S. 322, 392
 Gödel, Kurt 31, 52, 53, 58, 86, 87, 93, 94, 96, 98, 137, 138, 153, 156, 342, 343, 391
 Goethe, Johann Wolfgang von 1, 102
 Goldfarb, Warren 391
 Graham, Ronald 138
 Gray, Jeremy 137
 Gutberlet, Constantin 15

 Hall, Alfred Rupert 263
 Hamilton, William Rowan 172, 173
 Hardy, Godfrey Harold 260, 265
 Hasse, Helmut 393
 Hausner, Melvyn 228, 264
 van Heijenoort, Jean 137
 Heisenberg, Werner 269
 Henkin, Leon 391

 Herbrand, Jacques 307
 Heron of Alexandria 1
 Hilbert, David 16, 70, 71, 78, 138, 143, 262, 267, 268, 269, 270, 271, 284, 390, 391, 392
 Ho Peng-Yoke 137
 Hofman, J.E. 141
 Hurwitz, Adolf 263
 Hyman, Anthony 136
 Hypsikles 140

 Jeans, James 93
 Jockusch, Carl 366
 Jones, James P. 223, 231, 236, 243, 244, 245, 256, 260, 264, 265

 Khinchin, A.Y. 138
 Kleene, Stephen Cole 87, 88, 93, 94, 98, 109, 118, 124, 139
 Kline, Morris 16
 Kochen, Simon 195
 Koppel, Murray (Moshe) 210
 Kossovsky, N.K. 195
 Kreisel, Georg 263, 383
 Kripke, Saul 86
 Kritikos, Nikolaos 263
 Kronecker, Leopold 17
 Kummer, Ernst 145, 223, 224

 Lagrange, Joseph Louis 143, 165, 171, 172, 173, 174
 Lang, Serge 32, 137
 Langford, Cooper Harold 307
 Laplaza, Miguel 199, 200, 263
 Lavrov, I.A. 393
 Legendre, Adrien-Marie 143, 223, 225
 Leibnitz, Gottfried Wilhelm 2, 14 - 15, 195, 196
 Levitz, Hilbert 260, 265
 Lew, John 32, 40, 137
 Lewis, D.J. 218, 219, 264, 393
 Lindemann, Ferdinand 32, 40, 81
 Lindström, Per 303, 391
 Liouville, Joseph 170, 178
 Linschitz, Leonard 263

- Löwenheim, Leopold 303
 Lucas, Edouard 145, 188, 227
- Macbeth 267
- Machover, Moshe 139
 Marcus, Solomon 138
 Markov, A.A., Jr. 94
 Mascheroni, Lorenzo 268
 Matijasevič, Juriĭ 144, 145, 158, 178, 193, 194, 195, 210, 217, 222, 223, 227, 231, 236, 243, 244, 245, 256, 261, 262, 263, 264
 McCarthy, John 193, 194
 Mersenne, Marin 163
 Meschkowski, Herbert 137
 Mill, John Stuart 350
 Minkowski, Hermann 393
 Moore, Gregory 391
 Mordell, L.J. 238
 de Morgan, Augustus 92, 196
 Morrison, Philip & Emily 136
 Mostowski, Andrzej 329, 330, 383, 392, 393
 Mourey, C.V. 195, 196
 Myhill, John 364, 365, 366
- Nelson, Edward 393
 Newton, Isaac 2, 14 - 15, 195, 196
- Oldenburg, Henry 163
 Olds, C.D. 263
- Peano, Giuseppe 19, 58
 Pell, John 162
 Péter, Rosza 68, 72, 77, 138
 Pólya, Georg 23, 24, 69
 Post, Emil 94, 128, 135, 364
 Presburger, M. 307, 308, 313, 320, 321, 322, 392
 Putnam, Hilary 144, 153, 158, 199, 209, 366, 391
- Rackoff, Charles W. 393
 Recorde, Robert 2
 Reid, Constance 390
 Rice, H. Gordan 125, 126
 Richardson, Daniel 210, 264, 265
- Rickey, V. Frederick 176, 263
 Riemann, Bernhard 269
 Ritchie, Robert W. 366
 Ritter, W. 366
 Robinson, Abraham 327, 392
 Robinson, Julia 143, 144, 145, 148, 149, 150, 153, 158, 178, 194, 195, 199, 204, 217, 221, 262, 264, 384, 385, 393
 Robinson, Raphael 176, 217, 219, 338, 369, 385, 393
 Rogers, Hartley, Jr. 122, 127, 139, 205
 Rose, H.E. 79, 138
 Rosenberg, Arnold 32, 40, 137
 Rosser, J. Barkley 128, 349, 365
 Rothschild, Bruce 138
 Rothschild, K.E. 391
- Sato, D. 264
 Scarpellini, Bruno 264
 Scheutz, Edward & George 6
 Schmidt, Wolfgang 263
 Schroeder, Ernst 22
 Schütte, Kurt 195
 Shapiro, Norman 126
 Shelah, Saharon 79
 Shepherdson, John 366
 Shoenfield, Joseph 118
 Siefkes, Dirk 393
 Siegel, Carl Ludwig 198, 219, 264, 269
 Skolem, Thoralf 23, 58, 79, 87, 98, 137, 138, 199, 219, 303, 307, 308, 309, 310, 311, 313, 319, 320, 321, 329, 393
 Smith, David Eugene 136, 137, 263
 Smoryński, C. 199, 264, 366, 367, 392
 Smullyan, Raymond 86, 138, 366
 Soare, Robert 366
 Spanier, E. 322, 392
 Spencer, Joel 138
 Stifel, Michael 2
 Stolarsky, Kenneth B. 178, 263
 Struik, Dirk J. 136, 137
 Sudan, Gabriel 71, 138
 Sun Tsü 47, 51
 Sylvester, J.J. 314, 327, 392

- Taimanov, A.D. 393
 Taitslin, M.A. 393
 Tarski, Alfred 132, 283, 307, 393
 Taylor, Brooke 7
 Theon of Alexandria 140
 Thom, René 16
 Thomas, Wolfgang 139, 193
 Thue, Axel 178, 197, 238
 Trahtenbrot, B. 374
 Tuchinsky, Philip 176, 263
 Turing, Alan 93, 94, 139

 Vaught, Robert 330, 333, 383
 Veblen, Oswald 93
 Viète, François 2, 140, 141, 262
 Visser, Albert 200, 210, 361, 362, 366, 367
 Vogel, Kurt 262
 Voltaire, François-Marie 196

 Wada, H. 264
 van der Waerden, Bartel L. 79, 138, 141

 Wallis, John 162
 Walton, Izaak 266
 Wang, Paul 210, 264
 Warren, John 195, 196
 Weierstraß, Karl Theodor Wilhelm 15
 Weil, André 141, 262, 263
 Wessel, Caspar 195, 196
 Wiens, D. 264
 Wigner, Eugene 93, 138 - 139
 Wilder, Raymond 195, 263
 Wilkie, Alex J. 265
 Wilson, John 161

 Xylander 141

 Yasuhara, Ann 392
 Young, Paul 366

 Zakon, Elias 327, 392

Index of Subjects

- abelian group axioms 317
- Ackerman function,
 - an/the 72
 - Péter's,
 - alternate recursion 78
 - definition 72
 - growth of 72, 78
 - misc. 87, 92 - 93, 129
- algebraic numbers 34, 43
- Archimedean Property 166, 177
- arithmetic progression 79, 322
- arithmetic(ally definable) relation 83, 335
- atomic formula 275
- augmented language 282
- A- (\mathcal{A} -) (partial) recursive, 135

- Bernoulli numbers,
 - definition 14
 - formula 12
 - table 14
- Bertrand's postulate 69, 223
- bits 230
- bound variable 278
- Bounded Quantifier Theorem 155, 161
- bounded quantifiers 62, 337, 376
- box enumeration 20, 21
 - inverse 23
- $BV(\cdot)$ 278

- canonical index 54
- Cantor pairing function 20
 - inverses 21, 63
- Cantor-Schroeder-Bernstein Theorem 22
- Cantor's diagonal argument 19
- cardinal arithmetic 22
- cardinality 17

- cardinality quantifiers 303
- characteristic function 61
- Chebyshev's Theorem 223
- Chinese Remainder Theorem
 - for arbitrary moduli 51
 - historical 46 - 48
 - statement & proof 44, 45
- Church's Theorem 372
- Church's Thesis 139
- closed term 282
- coding, cf. dyadic coding, sequences
- commands 102
- Compactness Theorem 302, 388, 389
- complete sets 364
 - completeness of creative sets 364
- complete theory 297
- Completeness Theorem 291
- completion 297
- Completion Lemma 298
- computation 99, 100, 108
- concatenation 64, 65
- congruence 43
- conjunction 82
- consistent theory 297
- Contraction Rule 286
- countable 17
- course-of-values,
 - function 66
 - recursion 66
- creative set,
 - completeness 364
 - definition 115
 - existence 115
- Cut Rule 286, 305
- cut-off-subtraction 59
- c_i 273
- $Comp(z, e, x, y)$ 99

So essential did I consider an Index to be to every book, that I proposed to bring a Bill into parliament to deprive an author who publishes a book without an Index of the privilege of copyright; and, moreover, to subject him, for his offence, to a pecuniary punishment.

—*Baron Campbell*

- Davis Normal Form 149
 Davis-Putnam-Robinson Theorem 158, 236
 Davis' Theorem 200
 Smorynski's generalisation 239
 Deduction Theorem 289
 definable 283
 in L_R (arithmetically definable) 283
 Definition-by-Cases 60
 by partial cases 117
 degree,
 of form 32, 212
 of monomial 32
 denumerable, denumerably infinite 17
 diagonal argument 19
 diagonal enumeration 20, 21
 digits 230
 Diophantine equations 147
 systems of quadratic 198
 -- homogeneous quadratic 219
 Diophantine relation 82, 146
 Diophantineness of r.e. sets 193
 discrete linear order, axioms 319
 disjunction 82
 disjunctive normal form 310, 326 - 327
 Division Algorithm 50
 domain of structure 281
 dyadic coding of
 finite sets 54
 sequences 54
 strictly increasing sequences 54
 DEC 102
 DIOPH(Γ) 146 - 147
 D_x 54

 effectively inseparable sets,
 definition 116
 existence 116, 128
 elementary equivalence 305
 elementary expressions 209
 end extension 327
 preservation of Σ_1 -sentences under 377
 entailment 283, 291
 Enumeration Theorem 100, 112
 equality axioms 286
 equicardinal, equipollent 17
 Euclidean Algorithm 50
 Euler ϕ -function 44

 Euler's Identity 172
 exponential polynomials
 dyadic 150, 252
 iterated 150
 ordinary 150, 239, 252
 extension
 of theories 295
 conservative 295
 end, of structures 377
 extensional (set) 125

 Fermat equation 142
 Fibonacci numbers 57, 144
 finite difference 3
 finite inseparability 374
 finite Taylor Theorem 7
 finitely refutable 374
 first/second order 271
 Five Variable Result 260
 form, cf. homogeneous
 formal derivations (proofs) 288
 formula 275
 atomic 275
 fractional part 168
 free,
 t is free for v_i in ϕ 279
 variable 277 - 278
 Fueter-Pólya Theorem 24
 $F1, F2, F3, F4, F5$ 58 - 59, 96
 $F6$ 96
 liberalisation of $F6$ 113
 \tilde{F} (course-of-values function) 66
 F_i^n (function symbol) 273
 $FV(\cdot)$ 277 - 278

 Galileo's paradox of measure 15
 generalised factorial 153
 Ginsburg-Spanier Theorem 322
 Gödel's Incompleteness Theorem 342
 Grand Cycle 47 - 48
 gcd 187
 GO TO 102

 hereditarily finite sets 389
 Hierarchy Theorem 132
 Hilbert's tenth problem 143, 193

- homogeneous,
 - characterisation 33, 213
 - definition 32, 212
 - Diophantine problem 214
 - equivalence with $\text{DIOPH}(\mathcal{Q})$ 215
 - forms 32, 212
 - equivalence of 221 - 222
 - non-trivial zeroes of 33
 - unsolvable problems about 220 - 221
- hypersimple sets 364
- ignorabimus 268
- Incompleteness Theorem,
 - Gödel's 342
 - Rosser's 349
- index, indices 96, 97, 112
- index sets 125
- indexing 122
 - acceptable indexings 122, 205
 - isomorphism of 122
- induction, strong form of 9 - 10
- infinity
 - actual 17
 - potential 17
- initial segment 377
- interpretability, relative 309, 325 - 326, 352 - 353
- interpretation in a structure 281 - 282
- isomorphism of structures 305
- Iteration Theorem 118
- IF ... GO TO 102
- INC 102
- Kummer's Theorem 224, 244
- Lagrange's Theorem 172
- language 273
- lattice point 20
- Least Number Principle 346
- Legendre's Theorem 223
- length function 64
- Lindemann's Theorem 40
- Lindström's Theorems 303, 388, 389
- Liouville's Theorem 178
- logical axiom 285
- logical rules of inference 285 - 286
- Löwenheim-Skolem Theorem 303, 388, 389
- Lucas' Theorem 227, 228, 229
- $L(A)$ (augmented language) 282
- lh (length function) 64
- L_i (register machine instruction) 103
- LQ 368
- LR 335
- masking 229
- Matthew Effect 196
- minimisation,
 - bounded 63
 - unbounded 95
 - liberal version 113
- model 282
 - term model 299 - 300
- model completeness 327
- de Morgan's Laws 92, 133
- multiset 284
- \mathfrak{M}_S (term model) 299 - 300
- Nine Variable Result 256
- non-logical axiom 286, 287
- non-trivial set 125, 239
- Normal Form Theorem 100, 112, 204
- numerals 368
- N (natural numbers) 17
- \mathfrak{N} (natural numbers) 335
- one-one correspondence 17
- pairing function 20
 - inverses 63
- Parameter Theorem 117, 204
- parameters (special variables) 146
- partial function 95
- partial recursive function 96
- Pell equation 141, 142, 162
 - Brouncker's solution 164 - 165
 - existence of solutions 168
 - infinity of solutions 166
 - minimum solution 179
 - polynomial solutions 176 - 177
 - special equation 176, 179ff.
 - trivial solution 179
- Pell sequences 67, 180
 - Addition Rules 180
 - bounds 182, 186, 188

- Congruence Rule 183
- course-of-values recursion 181
- "Double-Angle Formula" 181
- periodicity 184
- simultaneous recursion 181
- & gcd 187
- period 322
- Pigeon-Hole Principle 167, 177, 263
 - multiplicative version 177 - 178
- polynomial expressions 203
 - numerical codes for 203
 - pre-polynomial expressions (ppe's) 202
- polynomial relation 82
- Post's Theorem 135
- ppe's (pre-polynomial expressions) 202
- prenex normal form 326 - 327
- preservation of order, axiom 317
- prime enumerating polynomials 209, 211
- primitive recursion 59
- primitive recursive
 - functions 58 - 59
 - relations 60
- primitives 273
- program 102 - 103
- projections
 - P_i^n 58
 - $(\cdot)_i$ 64, 65
- pseudo-pairing functions 199, 210
- Putnam's Theorem (ranges of polynomials)
 - 199, 207
- Pythagorean equation 141
 - description of solutions 163 - 164
- \mathcal{P} - (P -) (partial) recursive 135
- pd (predecessor) 59
- P_i^n (projection function) 58
- quantifier, cardinality 303
- quantifier
 - elimination 308
 - Cegielski's 334
 - Herbrand's 307
 - Presburger's 320
 - Skolem's 311
 - free formula 308
- quaternions 172
- Q (rational numbers) 22
- \mathbb{Q} (rational numbers) 384
- Q (Robinson's Theory)
 - axioms 369
 - essential undecidability of 372
 - interprets \mathcal{R} 369
- $Q1 - Q7$ (axioms of Q) 369
- Rational Approximation to Irrationals 167
- ray 34
 - algebraic 34
 - irrational 34
 - rational 34
 - slope of 34
 - transcendental 34
- r.e. relations 102
- recursion
 - Dedekind's Theorem on 57
 - primitive 58 - 59
 - simultaneous 67
- Recursion Theorem 124, 130
- recursive, general recursive, μ -recursive
 - functions 96
- recursive definition, Dedekind's Theorem on 57
- recursive relation 115
- recursively enumerable relations 102
- Reduction Lemma,
 - Formal 347
 - Informal 347
- register machine 102
- register machine computable 103
- registers 102
- relabelling 278
- relatively prime 44
 - pairwise 44
- relativisation
 - of formulae 309
 - of recursion 133
- representability of
 - functions 355
 - characterisation 358
 - strong 355
 - relations 350
- representing function 60 - 61
- Rice-Shapiro Theorem 126, 129 - 130
 - Diophantine analogue 207, 208
 - Smorynski's analogue 239
- Rice's Theorem 125
 - Davis' analogue 200
 - Diophantine analogue 207, 208
 - for sets 126, 129 - 130
- r.m. computable 103
 - equivalence with partial recursiveness 104
- Rosser's Theorem 349

- rules of inference, logical 285 - 286
- R (real numbers) 20
- $\mathcal{R}^-, \mathcal{R}, \mathcal{R}^+$ (Robinson's theory) 338
- $R1 - R5, R4', R5'$ (axioms of $\mathcal{R}^-, \mathcal{R}, \mathcal{R}^+$) 338
- R_j (register) 102
- r_j (contents of R_j) 102
- R_i^n (relation symbol) 273
- $rlbl(v_i, v, \varphi)$ 278
- $Rem(\cdot, \cdot)$ (remainder) 45

- Schubfachprinzip 167
- second-order
 - language 372
 - logic 372 - 373
 - failure of compactness and Löwenheim-Skolem 388
 - undecidability 373
- Selection Theorem 359
- semi-linear set 322
- semi-representability,
 - of relations 343
 - correct 366, 367
 - in general theories 362
 - of functions 359
 - strong 359
 - in Σ_1 -sound theories 360
 - in general theories 361
- sentence 280
- sequence formation 64, 65
- sequences,
 - b -adic coding of 54
 - coding by iterating pairing function 55, 68 - 69
 - dyadic coding of 54
 - strictly increasing 54
 - exponential coding of 54
- sequent 284
- set-extensional (set) 126
- Seven Variable Result 255
- signum, signum complement 59
- simple sets 364
- simultaneous recursion 67
- singlefold representation,
 - Diophantine 237
 - exponential Diophantine 236
- Soundness Lemma 292
- Step-Down Lemma,
 - First 184
 - Second 185
 - alternatives 189
- strict- Σ_1 -
 - formula 337
 - relation 89
 - coincidence with Σ_1 89
- strict- Π_1 -formula 337
- structure 271, 281 - 282
- sub-formula property 305
- substitution 278
- substructure 306
 - elementary 306
- summation by parts 7
- Sylvester's Theorem 314
- S (successor) 58
- sg (signum) 59
 - sg (signum complement) 59
 - s_n^m (s - m - n function) 117, 122
- S - m - n Theorem 118
- STOP 102

- Tarski's Theorem 132
- term 274
 - closed 282
- term model 299 - 300
- theory 287
 - complete 297
 - consistent 297
 - inconsistent 297
- Theory of
 - Addition 316 - 317
 - Multiplication 333
 - Successor 305 - 306
 - Successor and Order 306 - 307
- Three-Square Theorem 178
- Three Variable Result 245, 259
- total function 95
- Trahtenbrot's Theorem 375, 383
 - for binary relation 384, 389 - 390
- true in a structure 282, 291
- Turing's Hypothesis 139
- $T_n(e, x_0, \dots, x_{n-1}, z)$ 100, 111
- $Th(\mathfrak{M})$ (theory of structure \mathfrak{M}) 297
- $Th(\mathfrak{M}; a)_{a \in A}$ 306

- ultimately periodic set 322
- unbounded μ -operator, cf minimisation, μ
- uncountability of reals 18, 22
- undecidability 343
 - essential 353, 372

- existence of undecidable theories 343, 372
 - of first-order logic 372
 - of $Th(\mathbb{Q})$ 385
 - results of Kreisel, Mostowski, Vaught 383
 - without equality 383
- universal closure (of formula) 304
- universal Diophantine relation 204
- universal parital function 100, 112, 122
- $U(z)$ (result extracting function) 100, 111

- valid 283
- value (of term) 282
- Van der Waerden's Theorem 79
- variable
 - bound 278
 - bound occurrence 277 - 278
 - free 277 - 278
 - free occurrence 277 - 278
- variables,
 - parameter 146
 - solution 146
- Visser's Theorem 361

- weak direct power 330
- Weakening Rule 286
- Wilson's Theorem 161
- witness 294, 346
- witness comparison formulae 346
- Witnessing Lemma 295
- W_e^n, W_e 112
- W_P^m 206

- \aleph -recursive(ly enumerable), \aleph -r.e. 156
- $x^{(n)}$ 3
- $x^{|n|}$ 6
- $X_a(n)$ (Pell sequence) 180

- $Y_a(n)$ (Pell sequence) 180

- \mathbb{Z} ,
 - integers 17
 - zero function 58
- \mathfrak{B} (integers) 384

Notations

- β -function 52
- Γ -Diophantine 146 - 147
- Δ (difference operator) 3
- Δ^{-1} (inverse difference) 4
- Δ_0 -
 - formula 337
 - relation 88
- $\Delta_1(\mathcal{P}), \Delta_1(P)$ 134
- Δ_n -relation 131
- Δ_X, Δ_Y 25
- μy (minimisation) 95
- $\mu y < x$ (bounded μ -operator) 63
- ϕ (Euler ϕ -function) 44
- $\phi^{(I)}$ (relativisation of ϕ to I) 309
- Φ_e^n, Φ_e 112
- Π_1 -formula 337, 376 - 377
 - cf. also strict- Π_1
- $\Pi_1(\mathcal{P}), \Pi_1(P)$ 134
- Π_n -relation 131
- π_1^2, π_2^2 (inverses to pairing function) 63

- Σ_1 -
 - formula 332, 376 - 377
 - relation 83
 - cf. also strict- Σ_1
- $\Sigma_1(\mathcal{P})$ 133 - 134
- $\Sigma_1(P)$ 134
- $\Sigma_1^+(\mathcal{P})$ (positive $\Sigma_1(\mathcal{P})$) 134
- Σ_1 -Completeness Theorem 340
- Σ_1 -sound theories 342
 - examples 343, 344
- Σ_n -Enumeration Theorem 131
- Σ_n -relation 131
- χ_R (representing function) 61
- $\omega(x, y)$ (ray) 34
- $\langle \cdot, \cdot \rangle$ (pairing function) 20
- $(\cdot) \equiv (\cdot) \pmod{\cdot}$ (congruence) 43
- $|$ (divides) 43
- $\dot{-}$ (cut-off subtraction) 59
- $[\cdot / \cdot]$ (greatest integer) 63
- $*$ (concatenation) 65

- (\cdot)_i (projection) 65
- (x) (sequence formation) 65
- () (empty sequence) 64
- \simeq (identity of partial functions) 95
- \uparrow, \downarrow 95
- { α } (fractional part of α) 168
- $\ulcorner \urcorner$ (codes for ppe's) 203
- \doteq (formal equality symbol) 273
- $\wedge, \vee, \neg, \rightarrow, \forall, \exists$ (informal connectives and quantifiers) 274
- ($[t/v_i]\mu$), ($[t/v_i]\varphi$) 278
- \leftrightarrow 290
- \Rightarrow
 - as arrow of sequent 284
 - as empty sequent 284
- \vdash (derivability) 289
- \models (truth, entailment, validity) 282, 283, 291
- $\wedge L, \wedge R, \vee L, \vee R, \rightarrow L, \rightarrow R, \neg L, \neg R, \forall L, \forall R, \exists L, \exists R$, 285
- (\cdot) ^{\mathfrak{A}} (value in structure \mathfrak{A}) 281 - 282
- \leq ,
 - elementarity of substructure 306
 - masking 229
 - witness comparison 346
- $<$ (witness comparison) 346
- $\overline{0}, \overline{1}, \dots$
 - as constants 335
 - as numerals 368

Local Notations

- A_n 31
- X_n 31
- Y_n 31
- # 200, 239
- C 200, 239
- A^* 200, 239
- T^m 200, 201, 202, 239
- T^∞ 201, 202, 206, 239
- μ (Legendre's Theorem) 223
- r_{jt} 231
- l_{it} 232
- \hat{R}_j 232
- \hat{L}_i 232
- q 232
- I 232
- κ 244
- σ 244
- F^-, F^+, F^* 246
- R, S, T 248
- B^-, B^+, B^* 249
- A 250
- M 250
- LP 375
- \mathcal{P} 375 - 376

It does not seem supererogatory to inform the reader that the author is aware of an uniform misspelling of the name Leibniz throughout the present work. This was a genuine error brought on by the author's penchant for archaisms and his possession of a very nice print of "M. Leibnitz". This was not the antient Germanic spelling of the name, but a French one and, this not being a work in French, its use here must be deemed incorrect.