

Index

- abelian pro- p group, 36
- abelian profinite group, 32
- absolute value, 10
- adjoint representation, 237
- Ado's theorem, 153, 235
- algebraic group, 220
- analytic
 - continuation, 179, 324
 - function, 179, 182, 184, 328, 348
 - group, 185, 328
 - Λ -analytic, 323
 - manifold, 183, 327
- associated graded ring, 132, 158, 162, 291, 323
- atlas, 181
- augmentation ideal, 7, 298, 317, 319
- automorphism group, 89

- Baire category theorem, 54, 59
- Barnea, 85
- binomial theorem, 143, 189

- Campbell–Hausdorff formula, 116, 221
- Campbell–Hausdorff formula, 77, 123
- Campbell–Hausdorff series, 115
- category
 - equivalence, 232
 - isomorphism, 226
- Cauchy multiplication, 107
- Cauchy net, 31
- Cauchy sequence, 10, 18, 102
- chain rule, 342
- chart, 181, 326
 - global, 181
- Chevalley group, 334, 345, 353
- closed subgroup, 220
- co-ordinates of the first kind, 193
- co-ordinates of the second kind, 65, 193
- coclass, 243
 - conjectures, 266
- cocycle, 73
- Cohen structure theorem, 130
- collection formula, 355
- commutator, 1
- commutator Campbell–Hausdorff series
 - 115
- compact, 7
- compact subgroups, 205, 358
- compatible, 181, 182
 - R -charts, 326
- complete, 31, 102
- completed group algebra, 155, 166, 317
- completion, 102, 134
- composite, 113, 118
- composition, 112, 330
- congruence subgroup, 19, 32, 87
- congruence subgroup property, 33
- continuous homomorphism, 219
- convergence, 104

- Dark, 59
- derivation, 258
- derivative, 135
- derived group, 26
- dimension
 - of analytic group, 201, 330
 - of chart, 181
 - of local ring, 346
 - of pro- p group of finite coclass, 250
 - of pro- p group of finite rank, 63, 98, 309
 - of R -chart, 326
 - of standard group, 331
 - of uniform pro- p group, 68
- dimension subgroup, 271, 291, 298
- directed set, 16
- Donkin, 266
- double series, 106, 132
- DVR, 130

Cambridge University Press

0521542189 - Analytic Pro- p Groups, Second Edition

J. D. Dixon, M. P. F. Du Sautoy, A. Mann and D. Segal

Index

[More information](#)

Index

367

- evaluate, 109, 131
 exp, 111
 extension, 92, 220
- FC-centre, 84
 finite index subgroup, 25
 finite residual, 18
 finite subgroups, 72
 finitely presented, 78
 formal
 commutator, 332
 inverse, 331
 morphism, 340
 formal group law, 231, 331
 formal power series, 108
 Frattini subgroup, 5, 21, 23, 26
 free pro- p group, 34, 78
 functor, 226, 229, 342
- generates topologically, 20
 germ, 232
 gocha, 306
 Golod, 311
 Golod-Shafarevich inequality, 312, 346
 graded Lie algebra, 258, 264, 280, 289,
 291, 298, 343
 Grigorchuk, 319
 Gromov, 319
 group algebra, 6, 159
 group ring, 139
 growth
 function, 319
 polynomial, 319
- Hall, 355
 Hall-Witt identity, 340
 Hall-Petrescu formula, 355
 Hall-Petrescu identity, 274
 Hausdorff, 7
 Hausdorff dimension, 86
 Hilbert-Samuel function, 346
- index growth, 285
 induced analytic structure, 327
 induced manifold structure, 183
 inverse function theorem, 120
 inverse limit, 16
 inverse system, 16
 isolated (subgroup, Lie subalgebra), 228
- Jacobi identity, 9, 84
 Jennings, 291, 299, 309
- Kostrikin, 33
 Kreknin, 266
 Kreknin's theorem, 262
- Λ -analytic function, 323
- Leedham-Green, 243, 265
 Leibniz's formula, 268
 level, 331, 351
 Lie algebra, 9
 of analytic group, 228
 of formal group, 238, 340
 of R -analytic group, 339, 342
 of uniform pro- p group, 75, 83, 150,
 169, 203, 226
 perfect, 345, 354
 powerful, 222
 linear representation, 153, 155
 log, 76, 111, 148
 lower density, 58
 lower p -series, 24, 40, 49
 Lubotzky, 44, 57, 171, 314, 349
 Lubotzky linearity criterion, 175
- Mann, 44, 57
 Martinez, 34
 Milnor, 319
 modular dimension series, 291
 morphism, 229, 328
- N-series, 289
 Newman, 243, 265
 nilpotent group, 2, 28, 34
 norm, 101, 140, 169
 normed \mathbb{Q}_p -algebra, 103, 142
 normed \mathbb{Q}_p -algebra, 148
- open submanifold, 327
- p -adic exponentiation, 29
 p -adic Lie group, 185
 p -adic numbers, 10
 p -adic power, 29
 p -adic space group, 265, 268
 p -adic topology, 134
 p -coclass, 269
 p -congruence system, 171
 p -saturable, 81
 partition function, 307, 310
 PIG, 176
 Poincaré-Birkhoff-Witt theorem, 297,
 304
 powerful, 37, 48
 powerfully embedded, 37, 48
 presentation, 78
 minimal, 311
 pro- p completion, 19, 31
 pro- p group, 22
 pro- p ring, 130, 136, 322
 procyclic group, 29
 product (of manifolds), 184
 profinite completion, 18, 31
 profinite group, 15

- pronilpotent, 33
- PSG, 176

- Quillen, 309
- quotient (of analytic group), 220

- R -analytic group, 328
- R -analytic structure, 327
- R -atlas, 326
- R -chart, 326
 - global, 326
- R -manifold, 327
- R -perfect, 344
- R -standard group, 331
- rank (of a finite group), 42
- rank (of a profinite group), 51, 58
- regular local ring, 132
- represents, 109
- rescaling, 347
- residually nilpotent group, 320
- restricted enveloping algebra, 292
 - universal, 293
- restricted Lie algebra, 280, 292, 354
- restricted monomial, 296, 304
- restriction of scalars, 328, 350
- Riley, 271, 288

- Schur, 84
- Segal, 82, 95
- Shafarevich, 311
- Shalev, 45, 58, 59, 85, 266, 272, 288, 349
- stability group theory, 4

- standard chart, 331
- standard group, 194, 331
- strictly analytic, 109, 180
- subgroup growth, 54, 272, 349, 354
- Sylow pro- p subgroup, 33

- three-subgroup lemma, 2
- Tits, 321
- topological group, 8
- topologically characteristic, 20
- totally disconnected, 31, 359
- Tychonoff, 8

- uniform, 61
- uniformly powerful, 61
- unipotent, 5
- unique factorisation domain, 348
- uniqueness of power series, 107, 133
 - 195, 323
- uniserial, 245, 250, 287
- universal envelope, 293, 310
- upper finiteness condition, 176
- upper rank, 176

- virtually, 91

- Wolf, 319
- word growth, 54
- wreath product, 46, 93, 289

- Zel'manov, 33, 86, 266
- \mathbb{Z}_p -powered group, 53