Index

Affine hull, 327
Angle, 326, 331
Antipodal set of points, 267
Ball, 326, 332
Broken line, 337
Brunn–Minkowski inequality, 352
Busemann surface area, 244
Busemann perimeter, 37
Cap, 332
Carathéodory Theorem, 328
Cell complex, 338
Cell decomposition, 338
Centrally symmetric set, 328
Characteristic function, 326
Circle, 326
Circumradius, 341, 343
Circumscribed ball, 343
Circumscribed polygon, 333
Circumscribed polytope, 342
Closest point map, 329
Cloud, 32, 72, 271
Concave function, 329
Cone, 329
Congruent, 328
Content, 345
Convex arc, 334
Convex body, 325, 332
Convex domain, 325, 332
Convex function, 329
Convex hull, 328
Convex set, 325
Covering, 325
Covering density, 3, 201
Covering lattice, 354
Critical radius, 75, 81, 300, 312
Crystallography, 316
Curvature of a convex arc, 335
Cylinder, 289
Delone complex, 34, 101, 137, 138
Density deviation, 317, 319, 321
Determinant of a lattice, 353
Dirichlet–Voronoi cell, 98, 163
Domain, 337
Embedding into a quotient space, 339, 354
Equidistance curve, 333
Equilateral set, 267
Euclidean norm, 326
Euler characteristic, 338
Exposed point, 328
Extremal point, 328
Face centred cubic lattice, 354
Face of a polytope, 341
Facet of a polytope, 341
Finite lattice coverings, 62, 94
Finite lattice packings, 85, 312
Fubini theorem, 345
Grassmannian, 350
Groemer packing, 104
Hadwiger number, 63, 254, 284
Hausdorff distance, 330
Hausdorff measure, 347
Hexagon bound for coverings, 17
Hexagon bound for packings, 8
Hexagonal lattice, 354
Homothetic convex sets, 34, 330
Hyper-cycle, 333
Hyperbolic space, 331
Inradius, 341, 343
Inscribed ball, 343
Inscribed polygon, 333
Inscribed polytope, 342
Integer lattice, 354
Intrinsic volume, 349
Jordan measurable set, 177, 344, 347
Lattice, 339, 353
Laws of Sine and Cosine, 332
Index

Lebesgue measurable set, 344
Linear hull, 326
Lipschitz function, 348
Mean projection, 350
Mean width, 350
Measurable function, 345, 347
Minkowski arrangement, 133
Mixed area, 340
Mixed volume, 351
Moment Inequalities, 158
Multiple coverings, 73, 170, 199
Multiple packings, 132, 182
Newton number, 33, 221
Non-crossing domains, 16
Norm, 326, 330
Normal, 329
Normal cone, 329, 351
Packing, 325
Packing density, 3, 201
Packing lattice, 354
Parallelepiped, 342
Parallelopipet, 248
Parametric density, 74, 131, 242, 287, 288
Perimeter, 332
Periodic arrangement, 339, 354
Perpendicular bisector, 332
Petty number, 267
Polyhedron, 326
Polytope, 176, 342
Positive hull, 329
Principal Axis Theorem, 327
Probability measure, 355
Quasicrystals, 319
Ray, 328, 331
Reflection through a hyperplane, 328
Reflection through a point, 327
Regular polygon, 332

Regular polytope, 342
Rogers–Shephard inequality, 352
Saturated packing, 40, 100
Sausage radius, 304
Second moment, 131, 241
Segment, 328, 331
Separable packing, 32, 230
Similar convex domains, 23
Simplex, 342
Simplex bound, 182
Simplicial complex, 338
Simplicial polytope, 342
Skeleton, 210, 217, 240
Smooth convex body, 330
Smooth point of the boundary, 330
Snake, 72, 132, 286
Solid coverings, 171
Solid packings, 134
Sphere, 326
Spherical space, 331
Steiner symmetrization, 350
Strictly convex body, 330
Strip, 36, 342
Sum of sets, 329
Support function, 329
Supporting hyperplane, 329
Surface area, 345
Tiling, 325
Torus, 354
Total curvature of an arc, 336
Translative covering density, 38, 250
Translative packing density, 38, 250
Triangle bound for coverings, 136
Triangle bound for packings, 98
Triangulation, 176, 338
Typical compact convex set, 331
Volume, 344
Wulff-shape, 86, 313, 316, 318, 321