

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

380

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
 Parallelepiped, 248
 Parametric density, 74, 131, 242, 287, 288
 Perimeter, 332
 Periodic arrangement, 339, 354
 Perpendicular bisector, 332
 Petty number, 267
 Polygon, 332
 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

Index

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