

Classical Geometry

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November 5, 2022

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Part I

Euclidean geometry

Chapter 1

Plane geometry

Chapter 2

Solid geometry

Chapter 3

Axiomatization

Part II

Non-Euclidean geometry

Chapter 4

Absolute geometry

axioms 1 to 4

Chapter 5

Spherical and elliptic geometry

axioms 2 and 4

Chapter 6

Hyperbolic geometry

axiomes 1 to 4

6.1 Models of hyperbolic geometry

6.2 Elementary figures

6.3 Isometries

6.4 Length, volume, angle

Part III

Non-metric geometry

Chapter 7

Ordered and incidence geometry

axioms 1 and 2

Chapter 8

Affine and projective geometry

axioms 1,2,5

Chapter 9

Conformal and inversive geometry

Part IV

Erlangen program

Chapter 10

Symmetry groups

isometry, conformal, rigid motion, etc.

Chapter 11

Discrete subgroups

Chapter 12

Uniformization