

1. Record Nr.	UNINA9910254295903321
Autore	Loh Clara
Titolo	Geometric Group Theory : An Introduction / / by Clara Löh
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2017
ISBN	3-319-72254-9
Edizione	[1st ed. 2017.]
Descrizione fisica	1 online resource (XI, 389 p. 119 illus., 100 illus. in color.)
Collana	Universitext, , 0172-5939
Disciplina	512.2
Soggetti	Group theory Geometry, Differential Geometry, Hyperbolic Manifolds (Mathematics) Complex manifolds Graph theory Group Theory and Generalizations Differential Geometry Hyperbolic Geometry Manifolds and Cell Complexes (incl. Diff.Topology) Graph Theory
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	1 Introduction -- Part I Groups -- 2 Generating groups -- Part II Groups > Geometry -- 3 Cayley graphs -- 4 Group actions -- 5 Quasi-isometry -- Part III Geometry of groups -- 6 Growth types of groups -- 7 Hyperbolic groups -- 8 Ends and boundaries -- 9 Amenable groups -- Part IV Reference material -- A Appendix -- Bibliography -- Indices.
Sommario/riassunto	Inspired by classical geometry, geometric group theory has in turn provided a variety of applications to geometry, topology, group theory, number theory and graph theory. This carefully written textbook provides a rigorous introduction to this rapidly evolving field whose methods have proven to be powerful tools in neighbouring fields such as geometric topology. Geometric group theory is the study of finitely generated groups via the geometry of their associated Cayley graphs. It

turns out that the essence of the geometry of such groups is captured in the key notion of quasi-isometry, a large-scale version of isometry whose invariants include growth types, curvature conditions, boundary constructions, and amenability. This book covers the foundations of quasi-geometry of groups at an advanced undergraduate level. The subject is illustrated by many elementary examples, outlooks on applications, as well as an extensive collection of exercises.

---