

Geometric Group Theory

Labix

January 15, 2025

Abstract

Potentially good books: Humphreys, Erdmann and Wildson

Contents

1	The Geometry of Presentations	3
1.1	Cayley Graphs	3

1 The Geometry of Presentations

1.1 Cayley Graphs

Definition 1.1.1: The Cayley Graph of a Group

Let G be a group. Let S be a generating set of G . Define the Cayley graph Γ of G with respect to S to consist of the following data.

- The vertices are given by $V(\Gamma) = G$
- The edges are given by $E(\Gamma) = \{(g, gs) \mid g \in G, s \in S\}$