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Type: Talk

Proof of the Nielsen-Schreier Theorem via graph theory

Sunday 21 April 2024 14:40 (25 minutes)

The Nielsen–Schreier theorem states that a subgroup of a free group is itself a free group, giving also a formula for the number of generators of the subgroup when its index is known and finite. While the first statement sounds somewhat obvious, it is not completely straightforward to show. Moreover, the second part shows that subgroups of free groups can have arbitrarily many generators. In this talk I wish to present a non-advanced and, hopefully, intuitive proof of the above theorem.

Field

Mathematics

Length

Long 20 min

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