

Patterns in Coxeter groups

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Abstract: Coxeter groups are ubiquitous in mathematics, playing many apparently distinct roles - for example, as the symmetry groups of regular geometric objects and also the Weyl groups of semi-simple Lie algebras, including the infinite-dimensional Kac-Moody algebras. The infinite ones possess structures that are at one interesting and apparently regular in some sense, such as Kazhdan-Lusztig cells. But in what terms can one hope to describe these structures? This is a relatively simple case of the general question, how to describe infinite structures in finite terms.