Introduction to Coxeter groups

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15/05/2026

Coxeter systems

An example : Dihedral groups

Definition

Let D_n, called **dihedral group of order** $2n$ be the group of all transformations leaving a regular n-gon unchanged.

D_n can be given a Coxeter group struture with :

- Coxeter matrix :

$$MC(D_n, S_n) = \begin{pmatrix} 1 & n \\ n & 1 \end{pmatrix}$$

- Coxeter graph :

