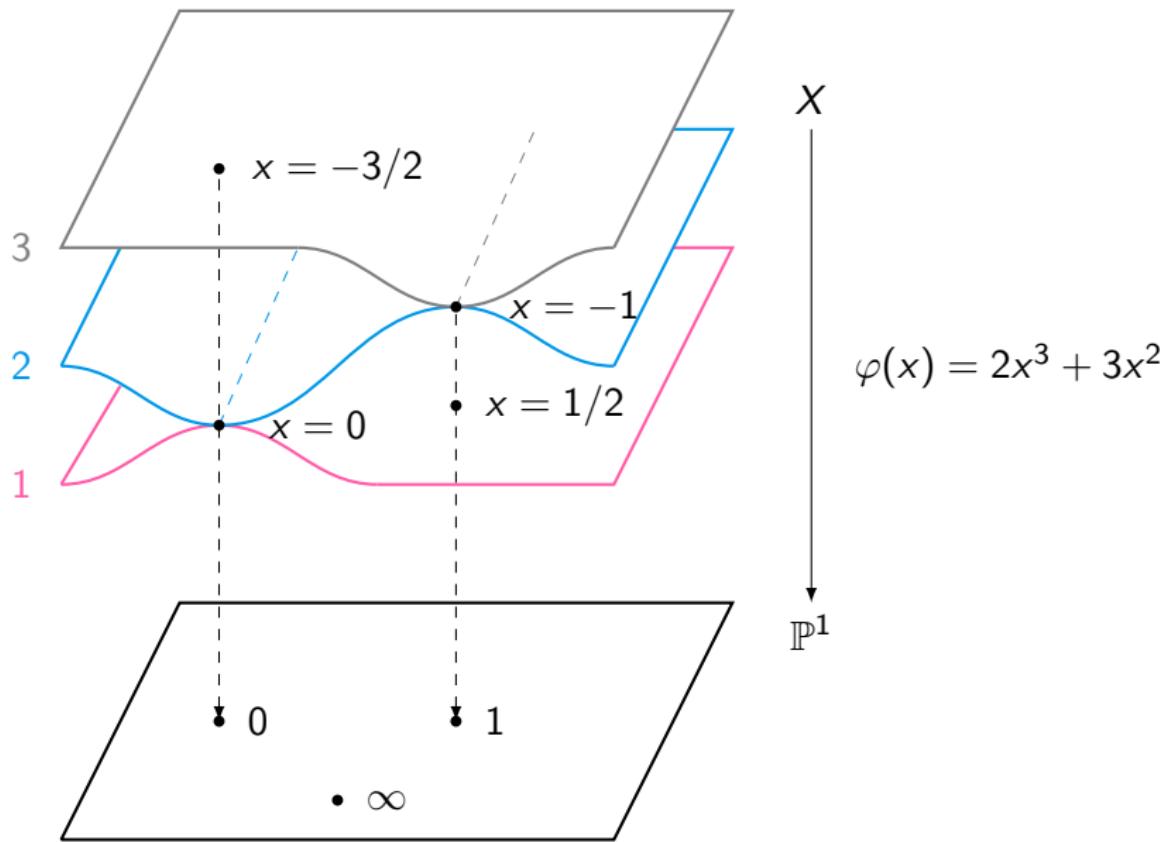


# **a plea for help**

---

Michael Musty

October 3, 2019



## bijection zoo

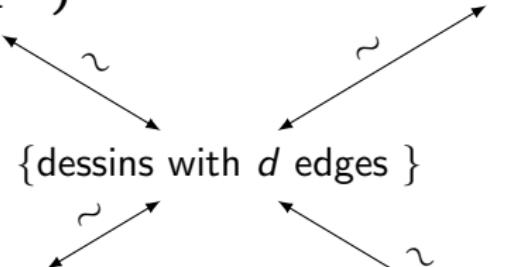
$\left\{ \begin{array}{l} \text{Transitive permutation} \\ \text{Triples } (\sigma_0, \sigma_1, \sigma_\infty) \in \\ S_d^3 \text{ with } \sigma_\infty \sigma_1 \sigma_0 = 1 \end{array} \right\}$

$\left\{ \begin{array}{l} \text{Index } d \text{ triangle sub-} \\ \text{groups } \Gamma \leq \Delta(a, b, c) \end{array} \right\}$

{ dessins with  $d$  edges }

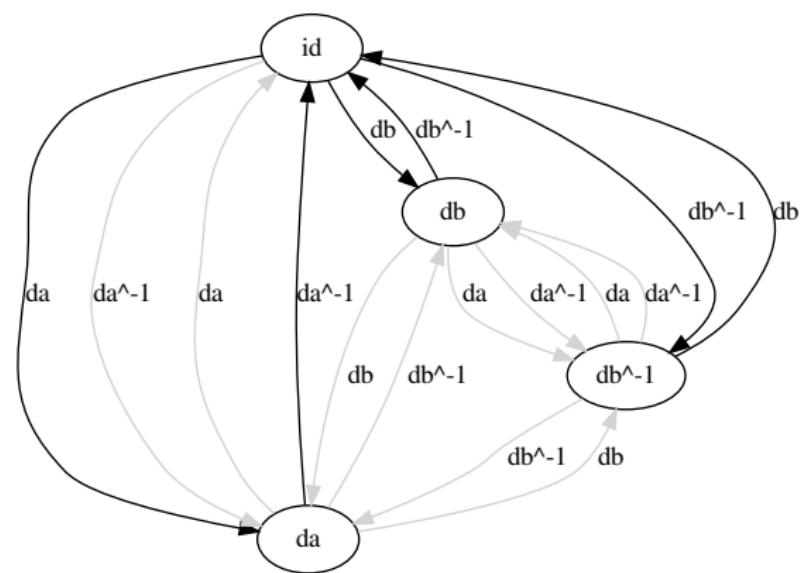
$\left\{ \begin{array}{l} \text{Degree } d \text{ function field} \\ \text{extensions } K \supseteq \mathbb{C}(z) \\ \text{with discriminant sup-} \\ \text{ported above } 0, 1, \infty \end{array} \right\}$

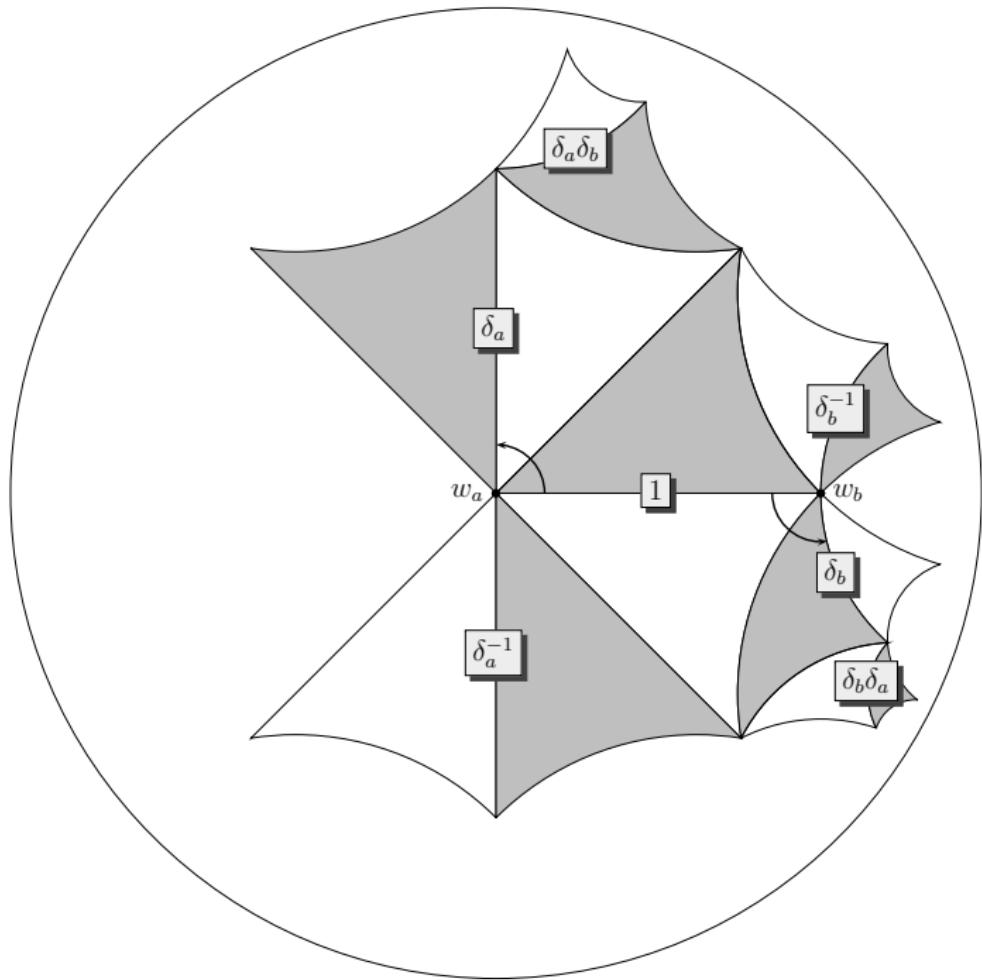
{ Belyi maps of degree  $d$  }



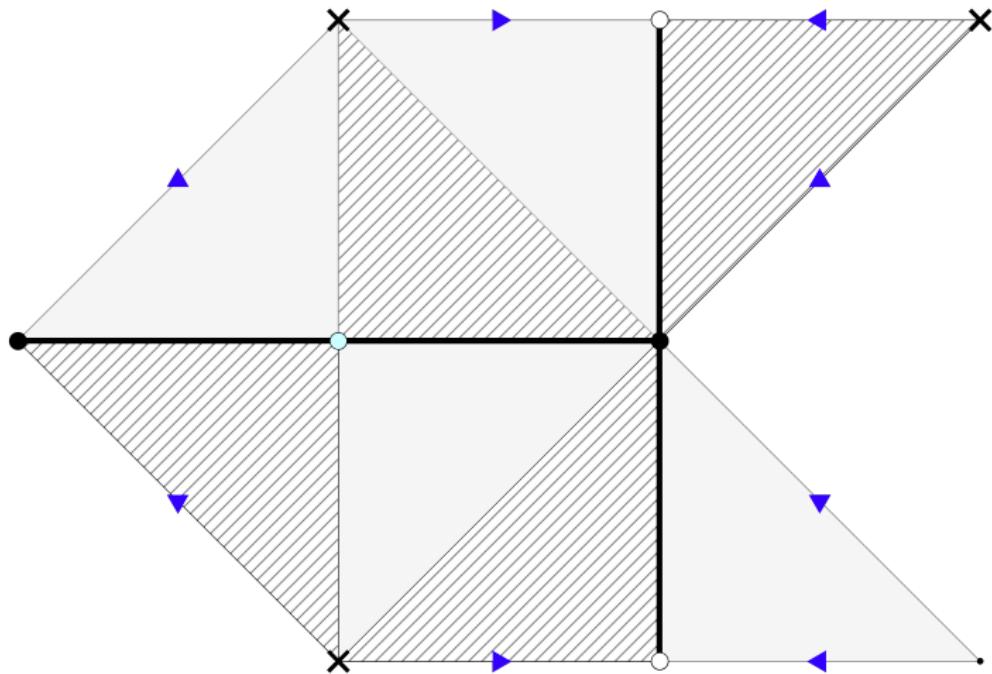
## triple to coset graph

$$\left( (1\ 3)(2\ 4), (1\ 2\ 3\ 4), (1\ 2\ 3\ 4) \right)$$





## coset graph to fundamental domain



fundamental domain to polygon and apply cut/paste?

