



A hyperbolic poly $\{p,k\}$ -form is a polyform on the hyperbolic plane that consists of  $p$ -gons on the tiling of the hyperbolic plane with Schläfli symbol  $\{p,k\}$ . A hyperbolic polyform with  $n$  cells is called a hyperbolic  $n_{\{p,k\}}$ -form.

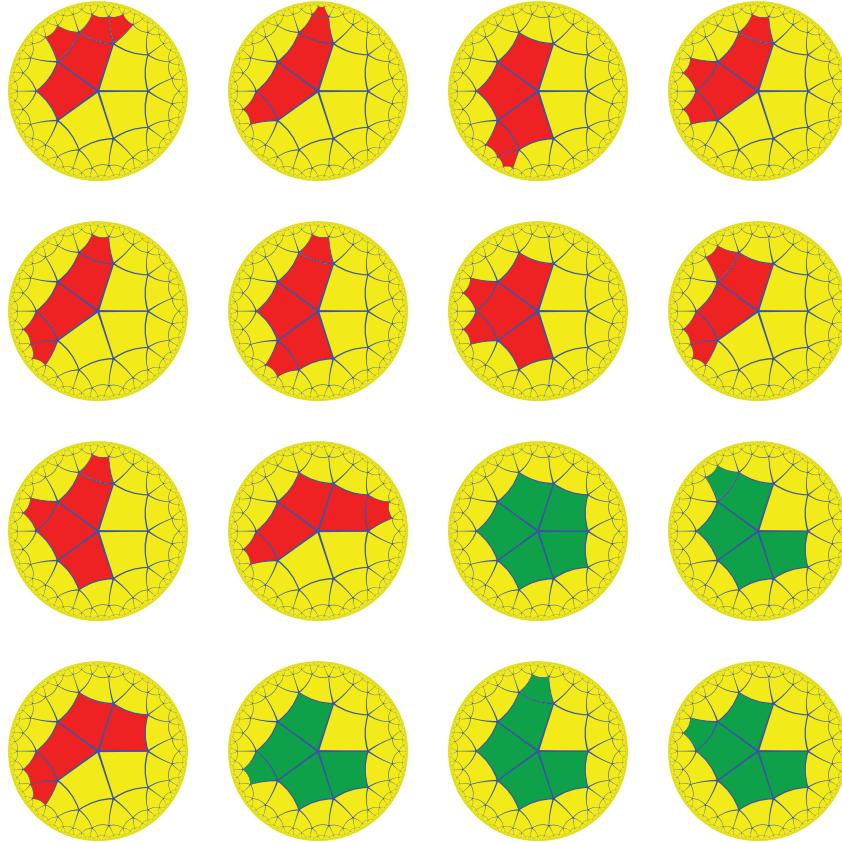


Figure 1: The A119611(5) free pentominoes in the tessellation of the hyperbolic plane with Schläfli symbol  $\{5, 4\}$ .

**Question.** What is the asymptotic growth of  $n_{\{p,k\}}$ -form as a function of  $n$ , the number of cells?

#### Related.

1. Can this generalize to three or more dimensions the way polyominoes generalize to polycubes?
2. Is there a meaningful notion of fixed vs 1-sided poly $\{p,k\}$ -forms?

#### References.

Problems 71, 72, 77, 101, 103, 108, and 109.

Code Golf Stack Exchange: Counting polyominoes on the hyperbolic plane.

arXiv: Extremal  $\{p, q\}$ -Animals