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.

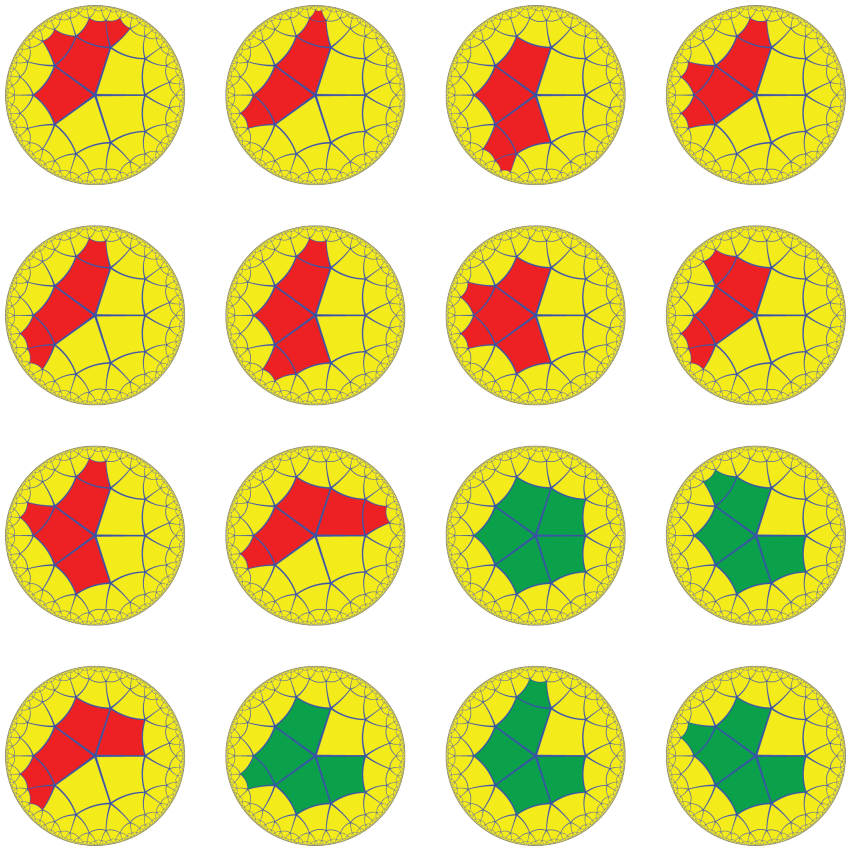

Figure 1: The $A119611(5)$ free pentominoes in the tessellation of the hyperbolic plane with Schläfli symbol $\{5, 4\}$.

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.