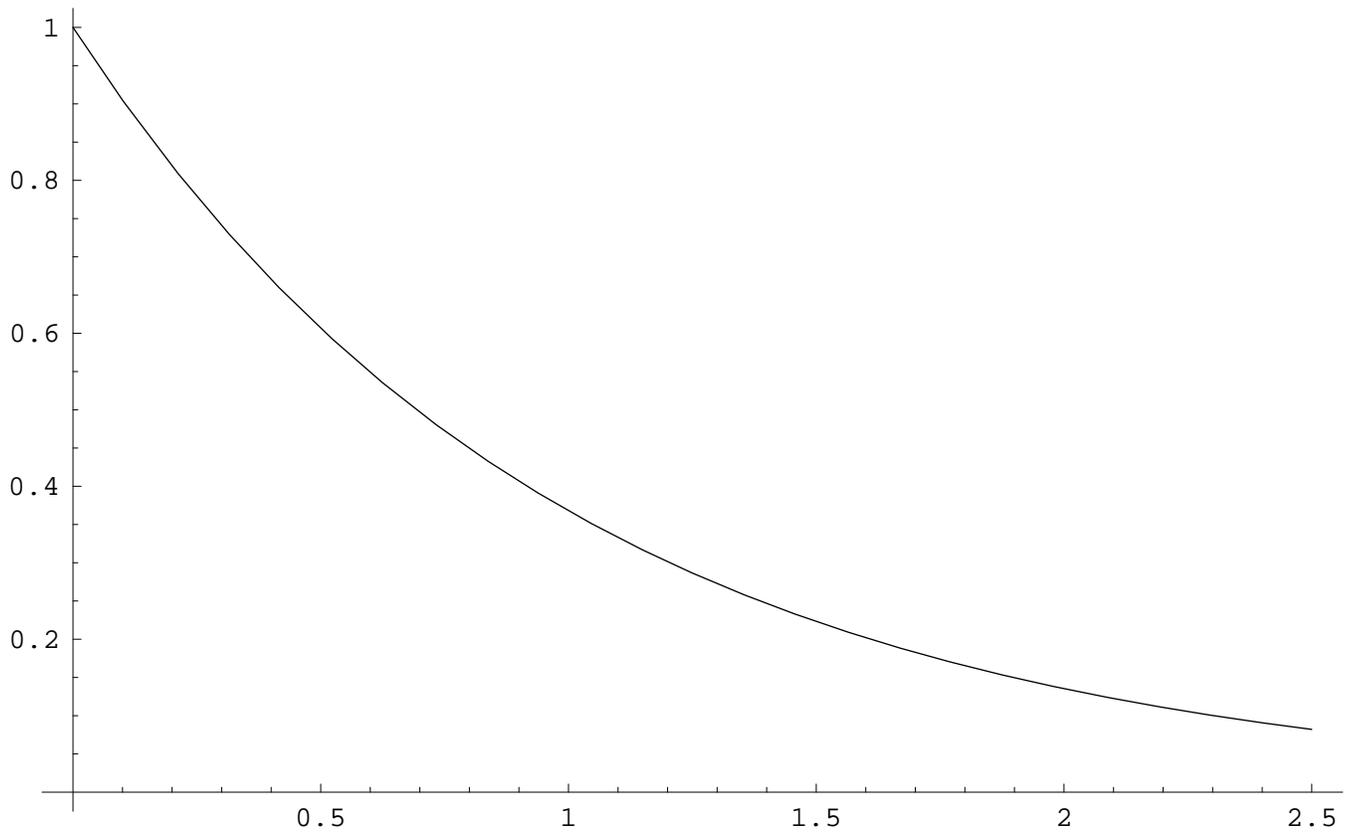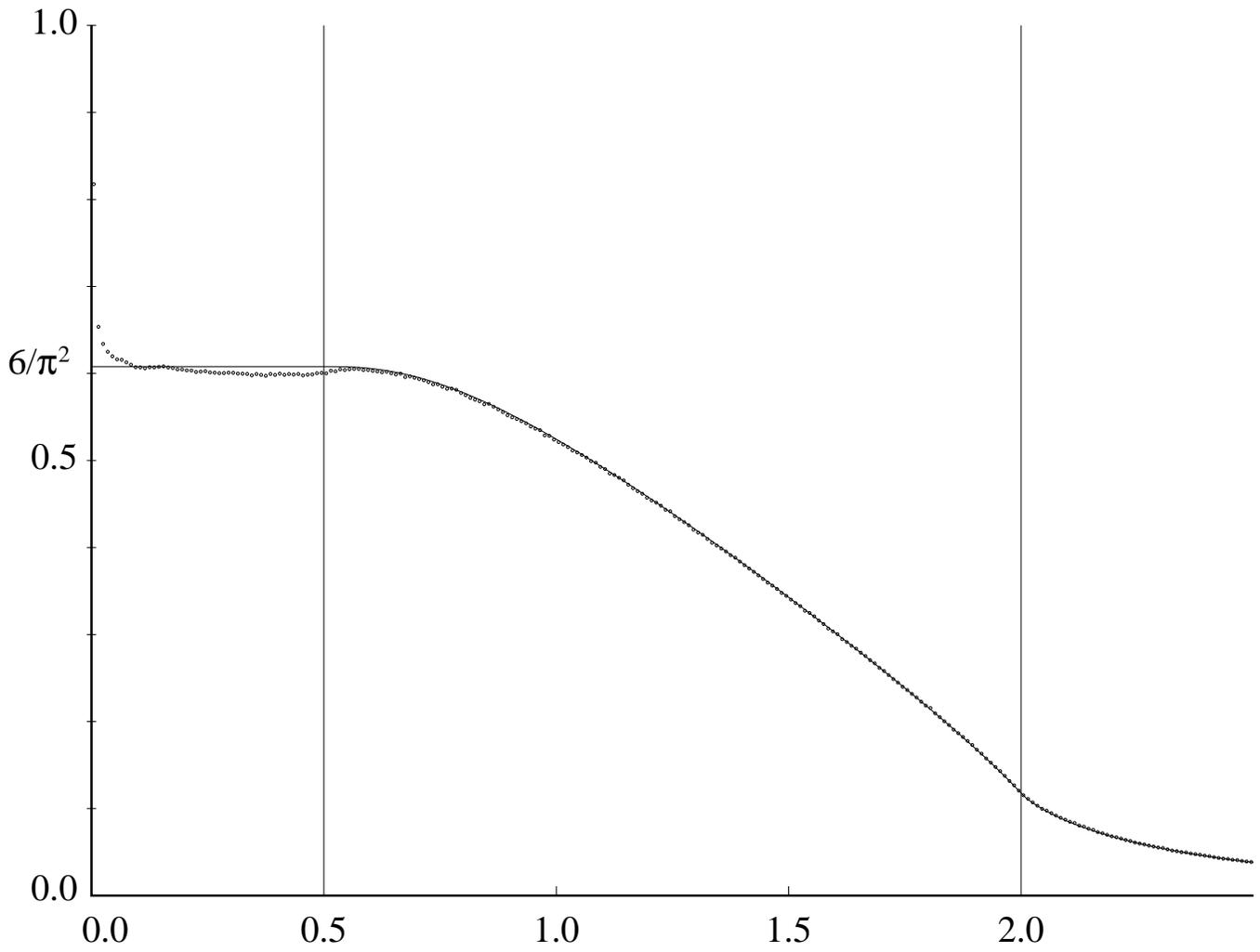# Random lattices and $\sqrt{n}$ mod 1

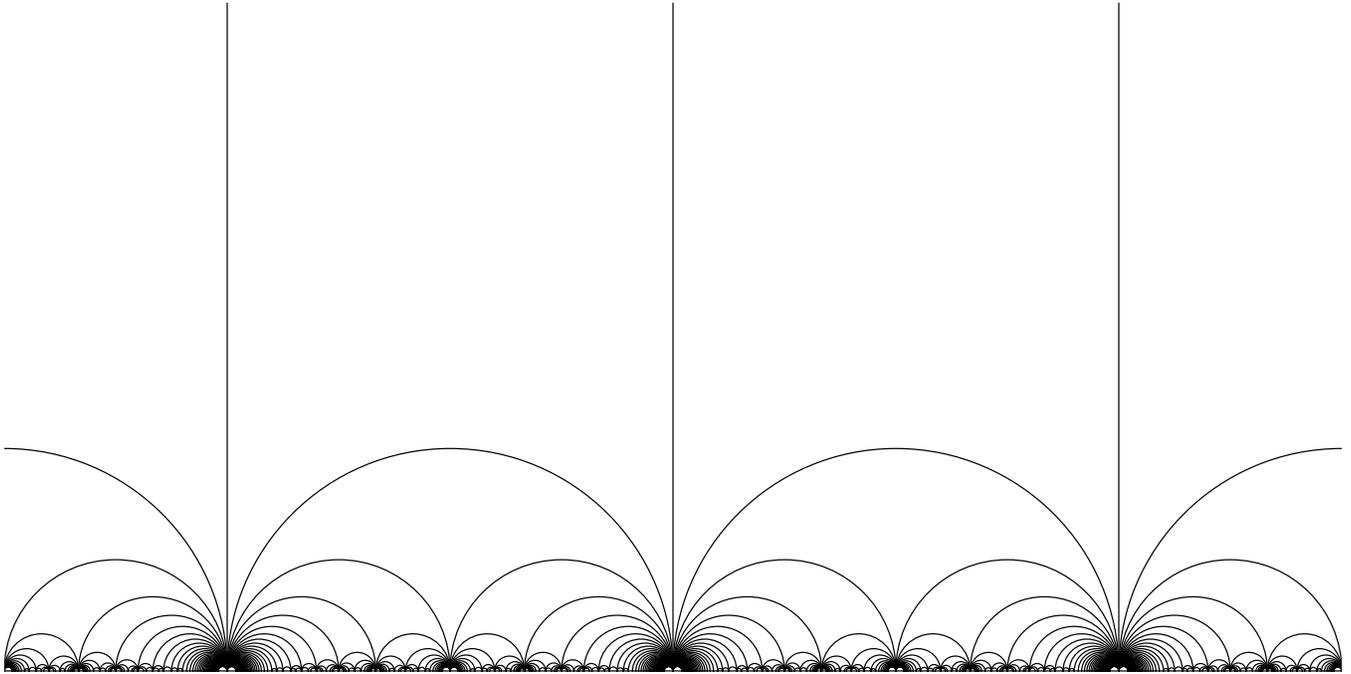# Gaps for random points

Gaps for $\sqrt{n} \bmod 1$

The space of lattices

Geodesic for $2^{1/3}$

pics/CubeRoot_2 : 200

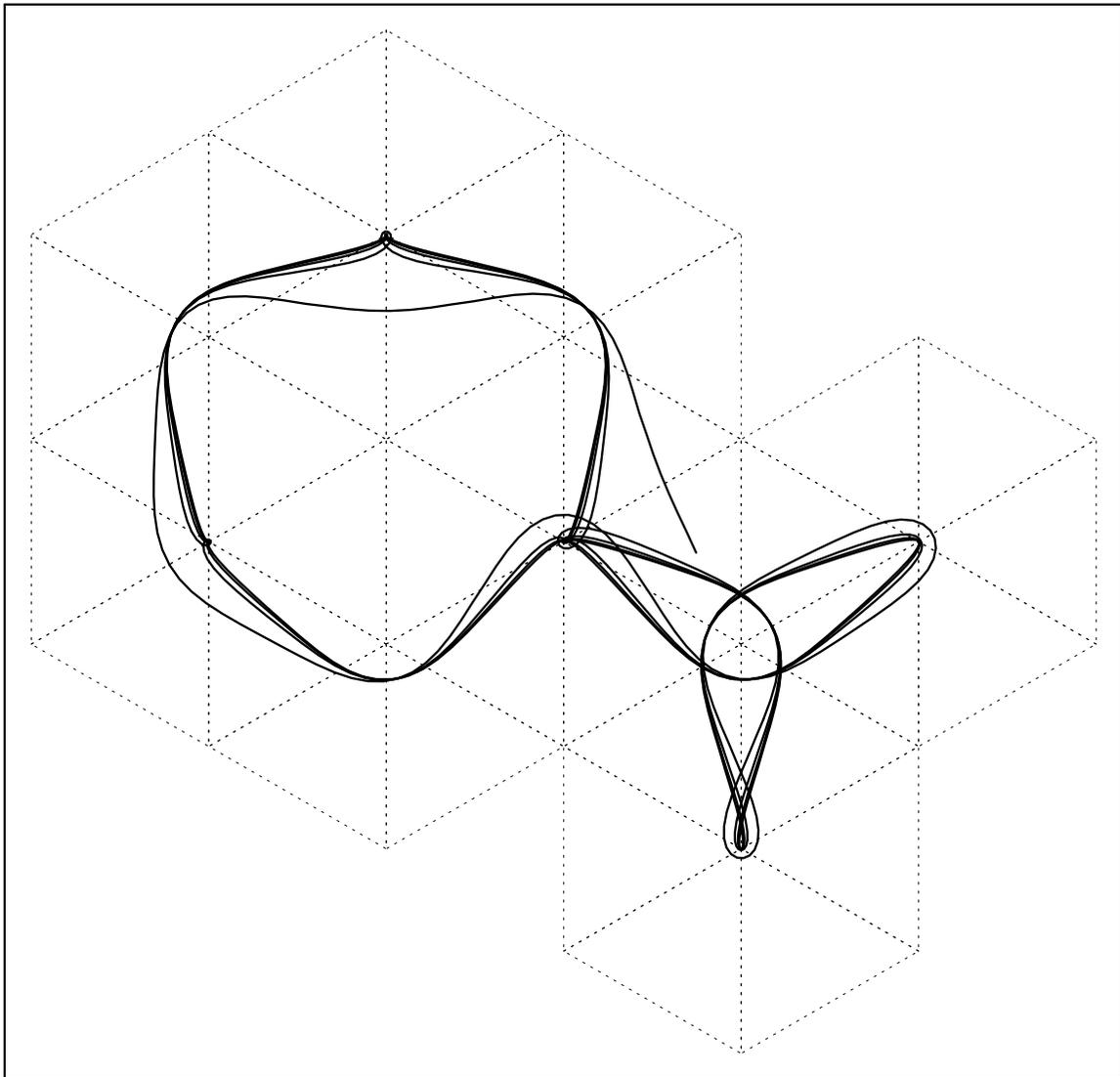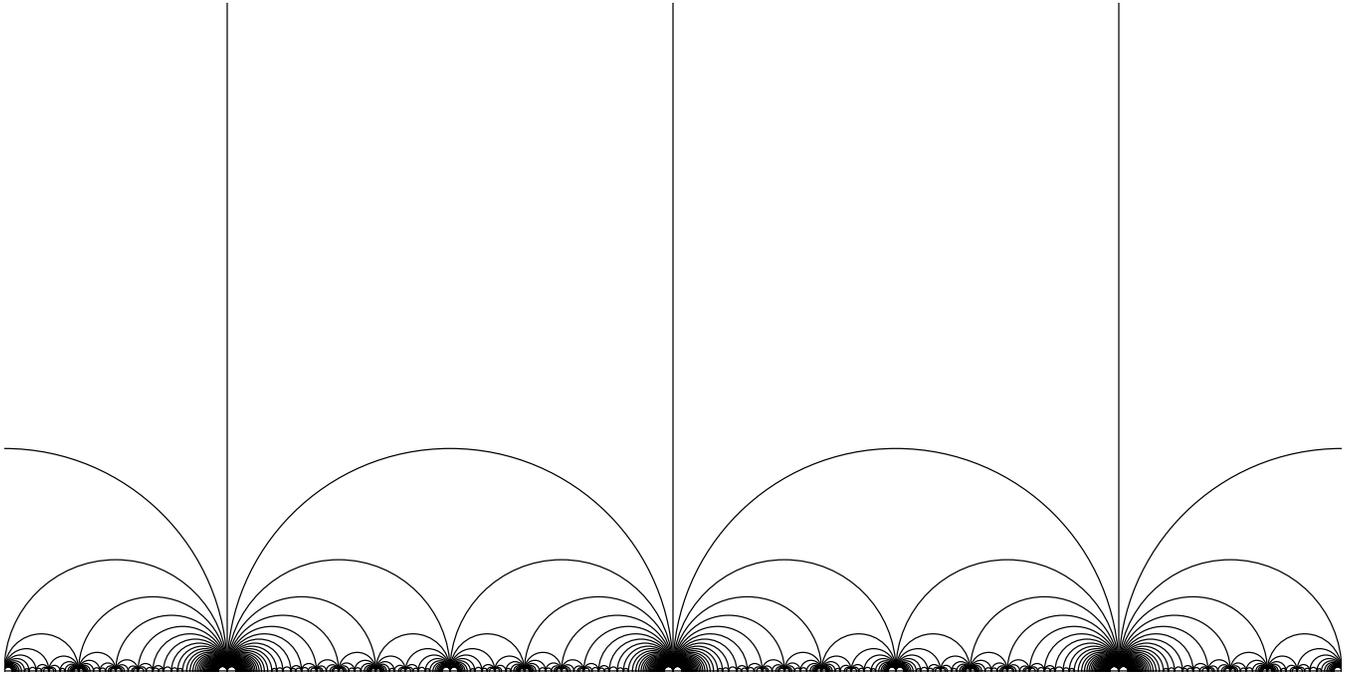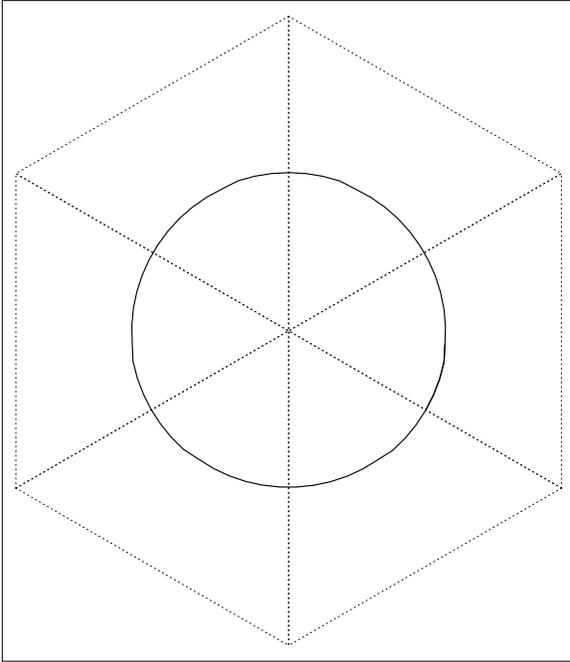# Geodesic for $\sqrt{12}$

pics/2_Sqrt_3 : 20
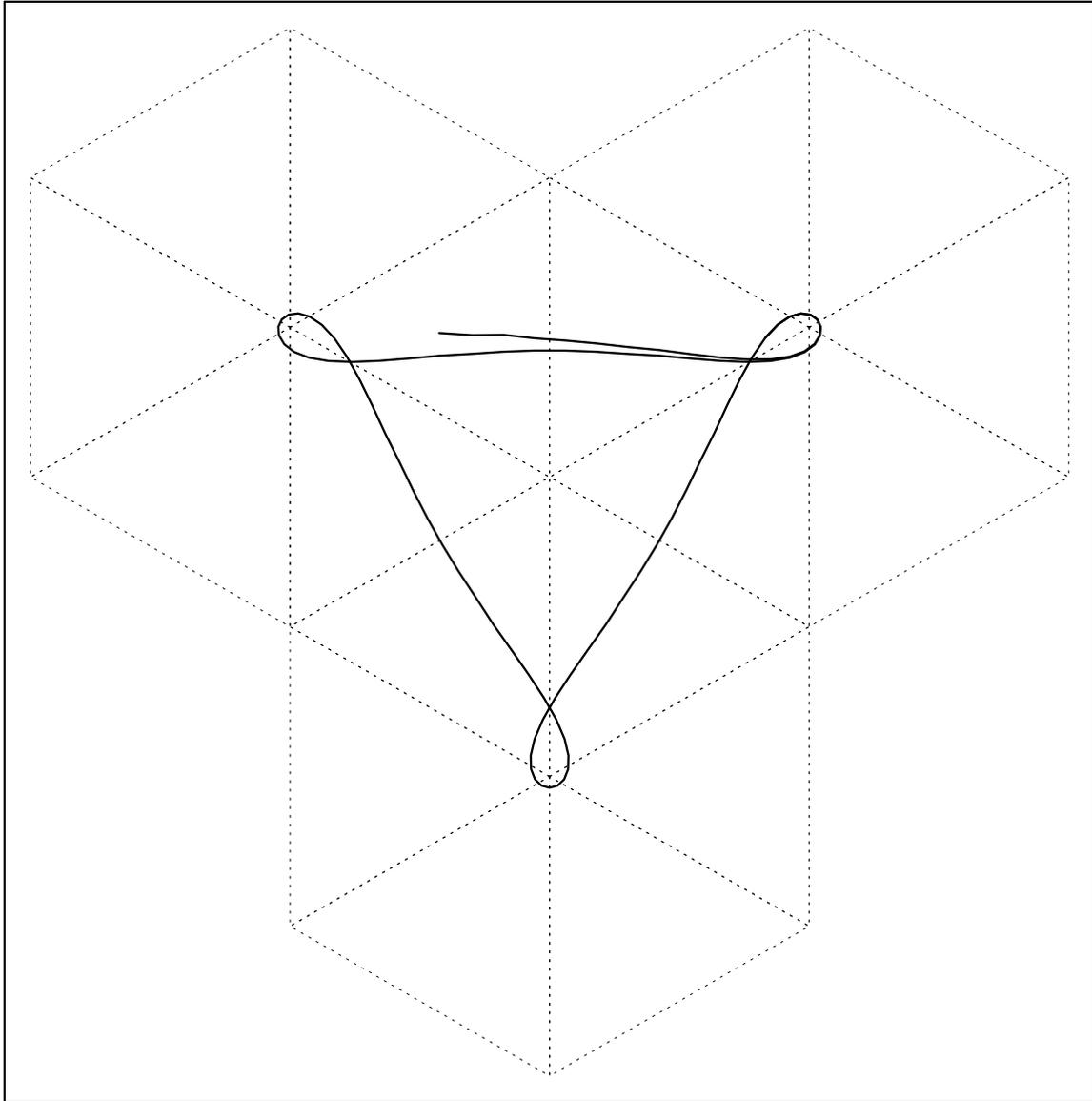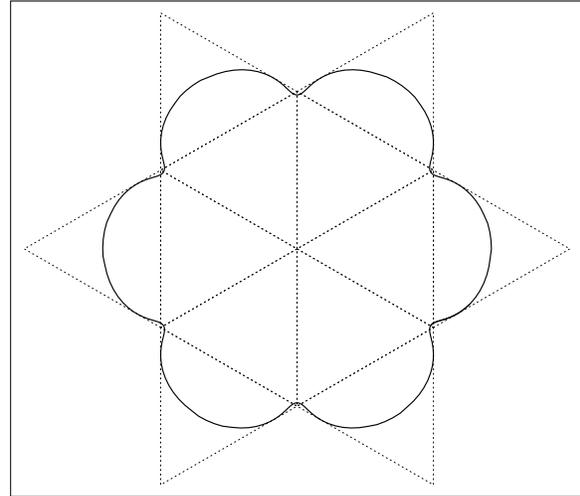
Geodesic for 2*e*

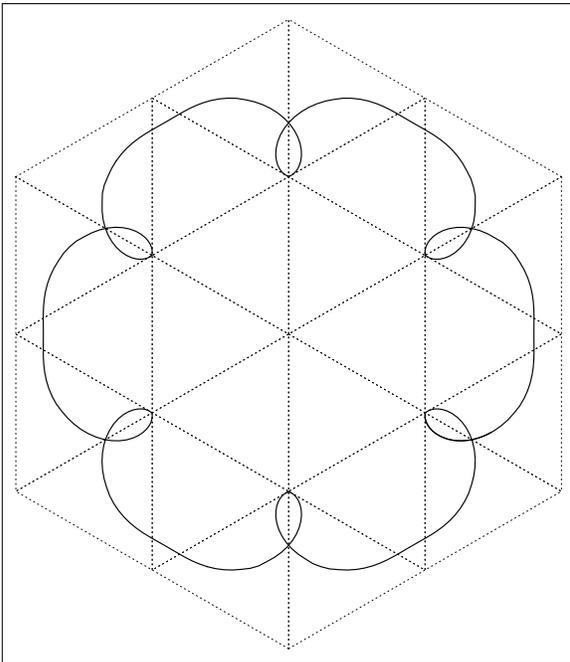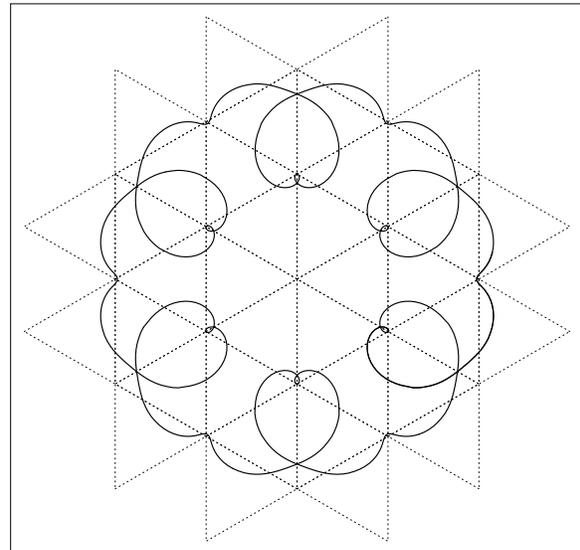# Closed horocycles

Horocycles centered at a cusp

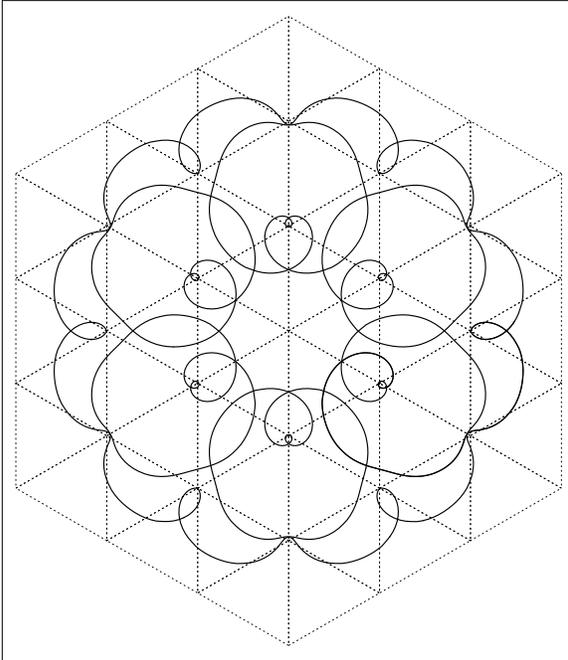pics/Horo1 : 6

pics/Horo4 : 24

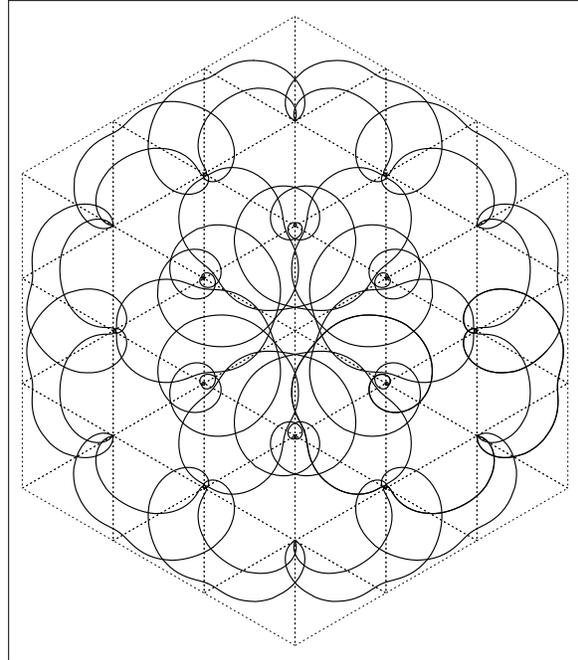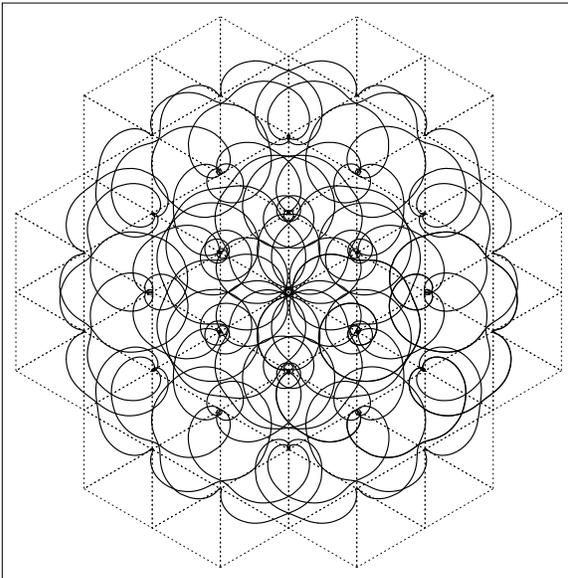pics/Horo8 : 48

pics/Horo16 : 100

Long horocycles

pics/Horo32 : 200

pics/Horo64 : 400

pics/Horo128 : 800

pics/Horo256 : 1600