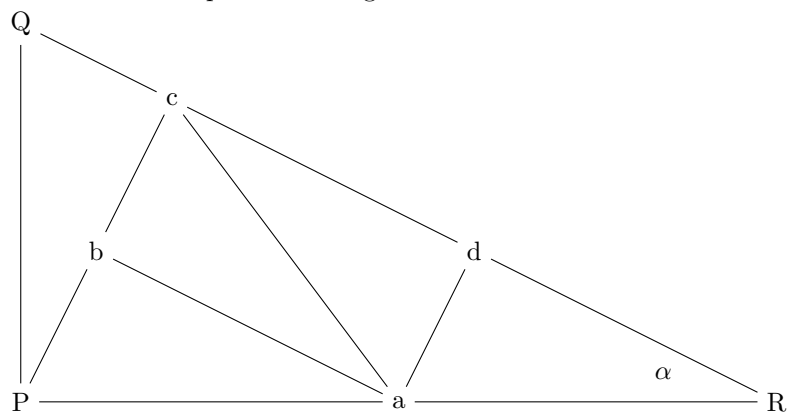


Pinwheel

The structure of the pinwheel tiling is as follows

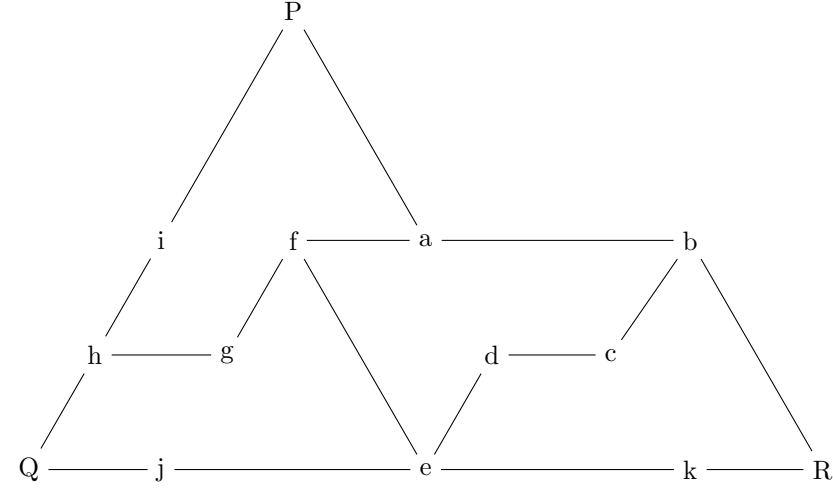


it is trivial to see that

$$\begin{aligned}
 a &= Q + \frac{QP}{2} \\
 b &= \text{polar} \left(\frac{1}{\sqrt{5}} |QP|, \text{phase}(QP) - \alpha \right) \\
 c &= \text{polar} \left(\frac{2}{\sqrt{5}} |QP|, \text{phase}(QP) - \alpha \right) \\
 d &= \text{polar} \left(\frac{2}{\sqrt{5}} |Ra|, \text{phase}(Ra) - \alpha \right)
 \end{aligned}$$

Sphinx

The structure of the sphinx tiling is as follows



Let

$$Qh = \frac{1}{4}QP$$

$$Qj = \frac{1}{6}QR$$

then by definition

$$h = Q + Qh$$

$$i = Q + 2Qh$$

$$j = Q + Qj$$

$$e = Q + 3Qj$$

$$k = Q + 5Qj$$

$$f = h + Qj$$

$$g = i + Qj$$

$$b = h + 4Qj$$

$$c = i + 4Qj$$

$$a = i + 2Qj$$

$$d = h + 3Qj$$