According to Heron the area of a triangle with sides a,b,c is

$$E = \sqrt{s(s-a)(s-b)(s-c)}$$

For circles $C_0 - C_1 - C_8$ the area of the triangle $K_0K_1K_8$ is according to Heron

$$\begin{aligned}
s &= \frac{1}{2}\left(r_0 + r_1 + r_1 + r_8 + r_8 + r_0\right) \\
s &= r_0 + r_1 + r_8 \\
E &= \sqrt{r_0 r_1 r_8 (r_0 + r_1 + r_8)}
\end{aligned}$$

with $r_k = d^k \cdot r_0$ and r_0=1

$$\begin{aligned}
E &= \sqrt{d^9(1 + d + d^8)} \\
E &= d^4\sqrt{d + d^2 + d^9}
\end{aligned}$$

The sector of C_0 has area

$$\begin{aligned}
A &= \frac{1}{2} r_0^2 \theta_0 \\
A &= \frac{1}{2}\theta_0
\end{aligned}$$

From the cosine rule we have

$$\begin{aligned}
\cos\theta_0 &= \frac{(r_0 + r_1)^2 + (r_0 + r_8)^2 - (r_1 + r_8)^2}{2(r_0 + r_1)(r_0 + r_8)} \\
\cos\theta_0 &= \frac{(1 + d)^2 + (1 + d^8)^2 - (d + d^8)^2}{2(1 + d)(1 + d^8)} \\
\cos\theta_0 &= \frac{1 + 2d + d^2 + 1 + 2d^8 + d^{16} - d^2 - 2d^9 - d^{16}}{2(1 + d)(1 + d^8)} \\
\cos\theta_0 &= \frac{2 + 2d + 2d^8 - 2d^9}{2(1 + d)(1 + d^8)} \\
\cos\theta_0 &= \frac{1 + d + d^8 - d^9}{(1 + d)(1 + d^8)}
\end{aligned}$$