$$x = (R-r)\cos \frac{rt}{R} + c\cos \frac{(R-r)t}{R}, \; y = (R-r)\sin \frac{rt}{R} - c\sin \frac{(R-r)t}{R}, \; t \in R.$$

$$x = (R-r)\cos \varphi + c\cos \frac{(R-r)\varphi}{r}, \; y = (R-r)\sin \varphi - c\sin \frac{(R-r)\varphi}{r}, \; \varphi \in R.$$

$x = \frac{(1-\sqrt{3})r}{\sqrt{3}}\cos \sqrt{3}t + 3r\cos(\sqrt{3}-1)t$

$y = \frac{(1-\sqrt{3})r}{\sqrt{3}}\sin \sqrt{3}t + 3r\sin(\sqrt{3}-1)t$

$t \in \langle 0 \,; 6.2\pi \rangle$

$x = \frac{(1-\sqrt{3})r}{\sqrt{3}}\cos \varphi + 3r\cos \frac{(\sqrt{3}-1)\varphi}{\sqrt{3}}$

$y = \frac{(1-\sqrt{3})r}{\sqrt{3}}\sin \varphi + 3r\sin \frac{(\sqrt{3}-1)\varphi}{\sqrt{3}}$

$\varphi \in \langle 0 \,; 10.7387\pi \rangle$

$$R = \frac{r}{\sqrt{3}}, \; c = 3r$$