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

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

$$x = \frac{(1+\sqrt{3})r}{\sqrt{3}}\cos\sqrt{3}t - r\cos(1+\sqrt{3})t$$
$$y = \frac{(1+\sqrt{3})r}{\sqrt{3}}\sin\sqrt{3}t - r\sin(1+\sqrt{3})t$$
$t \in \langle 0\,;\ 6.2\pi\rangle$

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

$$x = \frac{(1+\sqrt{3})r}{\sqrt{3}}\cos\varphi - r\cos\frac{(1+\sqrt{3})\varphi}{\sqrt{3}}$$
$$y = \frac{(1+\sqrt{3})r}{\sqrt{3}}\sin\varphi - r\sin\frac{(1+\sqrt{3})\varphi}{\sqrt{3}}$$
$\varphi \in \langle 0\,;\ 10.7387\pi\rangle$