Epicykloida – predĺžená $c>r>0,\ R>0$

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

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

$$x=\frac{(1+\sqrt{5})r}{\sqrt{5}}\cos\sqrt{5}t-\frac{5r}{4}\cos(1+\sqrt{5})t$$
$$y=\frac{(1+\sqrt{5})r}{\sqrt{5}}\sin\sqrt{5}t-\frac{5r}{4}\sin(1+\sqrt{5})t$$
$t\in\langle 0\,;\,6.2\pi\rangle$

$$R=\frac{r}{\sqrt{5}},\ c=\frac{5r}{4}$$

$$x=\frac{(1+\sqrt{5})r}{\sqrt{5}}\cos\varphi-\frac{5r}{4}\cos\frac{(1+\sqrt{5})\varphi}{\sqrt{5}}$$
$$y=\frac{(1+\sqrt{5})r}{\sqrt{5}}\sin\varphi-\frac{5r}{4}\sin\frac{(1+\sqrt{5})\varphi}{\sqrt{5}}$$
$\varphi\in\langle 0\,;\,13.8636\pi\rangle$