

Pericykloida – predĺžená

$r > c > 0, r > R > 0$

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

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

$$\begin{aligned} x &= \frac{(1-\sqrt{11})r}{\sqrt{11}} \cos \sqrt{11}t + \frac{3r}{4} \cos (\sqrt{11}-1)t \\ y &= \frac{(1-\sqrt{11})r}{\sqrt{11}} \sin \sqrt{11}t + \frac{3r}{4} \sin (\sqrt{11}-1)t \\ t &\in \langle 0; 6.2\pi \rangle \end{aligned}$$

$$R = \frac{r}{\sqrt{11}}, \quad c = \frac{3r}{4}$$

$$\begin{aligned} x &= \frac{(1-\sqrt{11})r}{\sqrt{11}} \cos \varphi + \frac{3r}{4} \cos \frac{(\sqrt{11}-1)\varphi}{\sqrt{11}} \\ y &= \frac{(1-\sqrt{11})r}{\sqrt{11}} \sin \varphi + \frac{3r}{4} \sin \frac{(\sqrt{11}-1)\varphi}{\sqrt{11}} \\ \varphi &\in \langle 0; 20.5631\pi \rangle \end{aligned}$$