

Pericykloida – skrátená

$c > r > R > 0$

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

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

$$\begin{aligned} x &= \frac{(1-\sqrt{7})r}{\sqrt{7}} \cos \sqrt{7}t + 3r \cos ((\sqrt{7}-1)t \\ y &= \frac{(1-\sqrt{7})r}{\sqrt{7}} \sin \sqrt{7}t + 3r \sin ((\sqrt{7}-1)t \\ t &\in \langle 0; 6.2\pi \rangle \end{aligned}$$

$$R = \frac{r}{\sqrt{7}}, \quad c = 3r$$

$$\begin{aligned} x &= \frac{(1-\sqrt{7})r}{\sqrt{7}} \cos \varphi + 3r \cos \frac{(\sqrt{7}-1)\varphi}{\sqrt{7}} \\ y &= \frac{(1-\sqrt{7})r}{\sqrt{7}} \sin \varphi + 3r \sin \frac{(\sqrt{7}-1)\varphi}{\sqrt{7}} \\ \varphi &\in \langle 0; 16.4037\pi \rangle \end{aligned}$$