

Epicykloida – skrátená

$r > c \geq 0, R > 0$

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

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

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

$$\begin{aligned} x &= \frac{(1+e)r}{e} \cos \varphi - \frac{3r}{4} \cos \frac{(1+e)\varphi}{e} \\ y &= \frac{(1+e)r}{e} \sin \varphi - \frac{3r}{4} \sin \frac{(1+e)\varphi}{e} \\ \varphi &\in \langle 0; 16.8533\pi \rangle \end{aligned}$$

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