# Epicykloida – predĺžená

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

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

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

$x = (1+\sqrt{3})r\cos\frac{t}{\sqrt{3}} - 5r\cos\frac{(1+\sqrt{3})t}{\sqrt{3}}$

$y = (1+\sqrt{3})r\sin\frac{t}{\sqrt{3}} - 5r\sin\frac{(1+\sqrt{3})t}{\sqrt{3}}$

$t\in\langle 0\,;\ 10.7387\pi\rangle$

$\boxed{R = \sqrt{3}r,\ c = 5r}$

$x = (1+\sqrt{3})r\cos\varphi - 5r\cos(1+\sqrt{3})\varphi$

$y = (1+\sqrt{3})r\sin\varphi - 5r\sin(1+\sqrt{3})\varphi$

$\varphi\in\langle 0\,;\ 6.2\pi\rangle$