Epicykloida – predĺžená

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

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

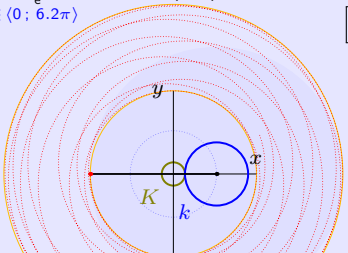
$x = (R+r)\cos\varphi - c\cos\frac{(R+r)\varphi}{r},\ y = (R+r)\sin\varphi - c\sin\frac{(R+r)\varphi}{r},\ \varphi \in R.$

$x = \frac{(1+\mathrm{e})r}{\mathrm{e}}\cos\mathrm{e}\,t - 4r\cos(1+\mathrm{e})t$

$y = \frac{(1+\mathrm{e})r}{\mathrm{e}}\sin\mathrm{e}\,t - 4r\sin(1+\mathrm{e})t$

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

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



$x = \frac{(1+\mathrm{e})r}{\mathrm{e}}\cos\varphi - 4r\cos\frac{(1+\mathrm{e})\varphi}{\mathrm{e}}$

$y = \frac{(1+\mathrm{e})r}{\mathrm{e}}\sin\varphi - 4r\sin\frac{(1+\mathrm{e})\varphi}{\mathrm{e}}$

$\varphi \in \langle 0\,;\ 16.8533\pi\rangle$