

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

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

$$\begin{aligned} x &= \frac{(1+\pi)r}{\pi} \cos \pi t - 5r \cos (1+\pi)t \\ y &= \frac{(1+\pi)r}{\pi} \sin \pi t - 5r \sin (1+\pi)t \\ t &\in \langle 0; 6.2\pi \rangle \end{aligned}$$

$$R = \frac{r}{\pi}, c = 5r$$

$$\begin{aligned} x &= \frac{(1+\pi)r}{\pi} \cos \varphi - 5r \cos \frac{(1+\pi)\varphi}{\pi} \\ y &= \frac{(1+\pi)r}{\pi} \sin \varphi - 5r \sin \frac{(1+\pi)\varphi}{\pi} \\ \varphi &\in \langle 0; 19.4779\pi \rangle \end{aligned}$$