

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

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

$$\begin{aligned} x &= (1+\pi)r \cos \frac{t}{\pi} - \frac{3r}{4} \cos \frac{(1+\pi)t}{\pi} \\ y &= (1+\pi)r \sin \frac{t}{\pi} - \frac{3r}{4} \sin \frac{(1+\pi)t}{\pi} \\ t &\in \langle 0; 19.4779\pi \rangle \end{aligned}$$

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

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