

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

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

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

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

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

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

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

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

$$\varphi \in \langle 0; 19.4779\pi \rangle$$