

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

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

$$x = \frac{(1+\sqrt{11})r}{\sqrt{11}} \cos \sqrt{11}t - \frac{r}{4} \cos (1+\sqrt{11})t$$

$$y = \frac{(1+\sqrt{11})r}{\sqrt{11}} \sin \sqrt{11}t - \frac{r}{4} \sin (1+\sqrt{11})t$$

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

$$R = \frac{r}{\sqrt{11}}, c = \frac{r}{4}$$

$$x = \frac{(1+\sqrt{11})r}{\sqrt{11}} \cos \varphi - \frac{r}{4} \cos \frac{(1+\sqrt{11})\varphi}{\sqrt{11}}$$

$$y = \frac{(1+\sqrt{11})r}{\sqrt{11}} \sin \varphi - \frac{r}{4} \sin \frac{(1+\sqrt{11})\varphi}{\sqrt{11}}$$

$$\varphi \in \langle 0; 20.5631\pi \rangle$$