

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

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

$$x = -\frac{r}{4} \cos \frac{4t}{3} + \frac{r}{4} \cos \frac{t}{3}, y = -\frac{r}{4} \sin \frac{4t}{3} + \frac{r}{4} \sin \frac{t}{3}$$

$$t \in (0; 6\pi)$$

$$x = -\frac{r}{4} \cos \varphi + \frac{r}{4} \cos \frac{\varphi}{4}, y = -\frac{r}{4} \sin \varphi + \frac{r}{4} \sin \frac{\varphi}{4}$$

$$\varphi \in (0; 8\pi)$$

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