

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

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

$$x = -\frac{r}{3} \cos \frac{3t}{2}, y = -\frac{r}{3} \sin \frac{3t}{2}$$

$t \in (0; 4\pi)$

$$x = -\frac{r}{3} \cos \varphi, y = -\frac{r}{3} \sin \varphi$$

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

$$R = \frac{2r}{3}, c = 0$$