

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

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

$$x = \frac{9r}{5} \cos \frac{5t}{4} - \frac{r}{2} \cos \frac{9t}{4}, y = \frac{9r}{5} \sin \frac{5t}{4} - \frac{r}{2} \sin \frac{9t}{4}$$

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

$$x = \frac{9r}{5} \cos \varphi - \frac{r}{2} \cos \frac{9\varphi}{5}, y = \frac{9r}{5} \sin \varphi - \frac{r}{2} \sin \frac{9\varphi}{5}$$

$\varphi \in (0; 10\pi)$

$$R = \frac{4r}{5}, c = \frac{r}{2}$$