

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

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

$$x = 8r \cos \frac{t}{9} + \frac{r}{4} \cos \frac{8t}{9}, y = 8r \sin \frac{t}{9} - \frac{r}{4} \sin \frac{8t}{9}$$

$$t \in (0; 18\pi)$$

$$x = 8r \cos \varphi + \frac{r}{4} \cos 8\varphi, y = 8r \sin \varphi - \frac{r}{4} \sin 8\varphi$$

$$\varphi \in (0; 2\pi)$$

$$R = 9r, c = \frac{r}{4}$$