

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

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

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

$$t \in \langle 0; 18\pi \rangle$$

$$x = \frac{5r}{4} \cos \varphi + r \cos \frac{5\varphi}{4}, y = \frac{5r}{4} \sin \varphi - r \sin \frac{5\varphi}{4}$$

$$\varphi \in \langle 0; 8\pi \rangle$$

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