

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

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

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

$t \in (0; 8\pi)$   $\varphi \in (0; 18\pi)$

$$R = \frac{4r}{9}, c = \frac{5r}{4}$$