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

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

$x = \frac{4r}{3}\cos\frac{3t}{7} + \frac{5r}{4}\cos\frac{4t}{7},\ y = \frac{4r}{3}\sin\frac{3t}{7} - \frac{5r}{4}\sin\frac{4t}{7}$

$t \in \langle 0\,;\,14\pi\rangle$

$x = \frac{4r}{3}\cos\varphi + \frac{5r}{4}\cos\frac{4\varphi}{3},\ y = \frac{4r}{3}\sin\varphi - \frac{5r}{4}\sin\frac{4\varphi}{3}$

$\varphi \in \langle 0\,;\,6\pi\rangle$

$$R = \frac{7r}{3},\ c = \frac{5r}{4}$$