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

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

$x = (1+\sqrt{11})r\cos\dfrac{t}{\sqrt{11}} - 2r\cos\dfrac{(1+\sqrt{11})t}{\sqrt{11}}$

$y = (1+\sqrt{11})r\sin\dfrac{t}{\sqrt{11}} - 2r\sin\dfrac{(1+\sqrt{11})t}{\sqrt{11}}$

$t \in \langle 0\ ;\ 20.5631\pi\rangle$

$$\boxed{R = \sqrt{11}r,\ c = 2r}$$

$x = (1+\sqrt{11})r\cos\varphi - 2r\cos(1+\sqrt{11})\varphi$

$y = (1+\sqrt{11})r\sin\varphi - 2r\sin(1+\sqrt{11})\varphi$

$\varphi \in \langle 0\ ;\ 6.2\pi\rangle$