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

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

$x = \frac{(1-\pi)r}{\pi}\cos\pi t + 5r\cos(\pi-1)t$

$y = \frac{(1-\pi)r}{\pi}\sin\pi t + 5r\sin(\pi-1)t$

$t \in \langle 0 \, ; \, 6.2\pi \rangle$

$\boxed{R = \frac{r}{\pi}, \, c = 5r}$

$x = \frac{(1-\pi)r}{\pi}\cos\varphi + 5r\cos\frac{(\pi-1)\varphi}{\pi}$

$y = \frac{(1-\pi)r}{\pi}\sin\varphi + 5r\sin\frac{(\pi-1)\varphi}{\pi}$

$\varphi \in \langle 0 \, ; \, 19.4779\pi \rangle$