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

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

$x = \frac{5r}{3}\cos\frac{3t}{8} + r\cos\frac{5t}{8}$, $y = \frac{5r}{3}\sin\frac{3t}{8} - r\sin\frac{5t}{8}$
$t \in \langle 0\,;\,16\pi \rangle$

$x = \frac{5r}{3}\cos\varphi + r\cos\frac{5\varphi}{3}$, $y = \frac{5r}{3}\sin\varphi - r\sin\frac{5\varphi}{3}$
$\varphi \in \langle 0\,;\,6\pi \rangle$

$R = \frac{8r}{3}$, $c = r$