

Hypocykloida – predĺžená

$c > r > 0, R > r > 0$

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

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

$$x = \frac{5r}{4} \cos \frac{4t}{9} + 4r \cos \frac{5t}{9}, \quad y = \frac{5r}{4} \sin \frac{4t}{9} - 4r \sin \frac{5t}{9} \\ t \in \langle 0; 18\pi \rangle$$

$$x = \frac{5r}{4} \cos \varphi + 4r \cos \frac{5\varphi}{4}, \quad y = \frac{5r}{4} \sin \varphi - 4r \sin \frac{5\varphi}{4} \\ \varphi \in \langle 0; 8\pi \rangle$$

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