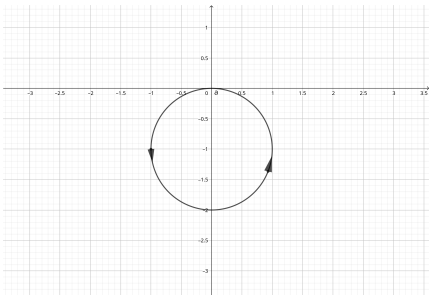
1.

- $\star : r = -2\sin(\theta)$
- $x = \cos(\theta) * r \overset{\star}{\Rightarrow} x = \cos(\theta) \cdot (-2\sin(\theta))$
- $x = \sin(\theta) * r \overset{\star}{\Rightarrow} y = -2\sin^2(\theta)$

$$\begin{cases} x(t) = -2 \cdot \cos(t)\sin(t) \\ y(t) = -2\sin^2(\theta) \\ 0 \leq t < \pi \end{cases}$$

t	x	y
$\frac{\pi}{4}$	-1	-1
$\frac{\pi}{2}$	0	-2
π	0	0
$\frac{3\pi}{4}$	1	-1



2.

- $\star : r = 1 - \cos(\theta)$
- $x = r \cdot \cos(\theta) \overset{\star}{\Rightarrow} x = \cos(\theta) - \cos^2(\theta)$
- $y = r \cdot \sin(\theta) \overset{\star}{\Rightarrow} y = \sin(\theta) - \sin(\theta) \cdot \cos(\theta)$

$r = \sqrt{x^2 + t^2} \overset{\star}{\Rightarrow}$

$\sqrt{x^2 + t^2} = 1 - \cos(\theta) \overset{\cos(\theta) = \frac{x}{\sqrt{x^2+y^2}}}{\equiv}$

$\sqrt{x^2 + t^2} = 1 - \frac{x}{\sqrt{x^2+y^2}} \equiv$

$x^2 + y^2 = \sqrt{x^2 + y^2} - x$

$$\begin{cases} x(\theta) = \cos(\theta) - \cos^2(\theta) \\ y(\theta) = \sin(\theta) - \sin(\theta) \cdot \cos(\theta) \\ 0 \leq \theta < 2\pi \end{cases}$$

t	x	y
0	0	0
π	-2	0