* Circles

$r = a \cos\theta$

$r = a \sin\theta$

Cardiods

$r = a \pm a\cos\theta$

$r = a \pm a\sin\theta$

Roses

$r = a\cos(n\theta)$

$r = a\sin(n\theta)$

length $|a|$

# of Pedals n Even $\to 2n$

n odd $\to n$

Spacing $\dfrac{2\pi}{\# \text{ of leaves}}$ or $\dfrac{360}{\#\text{ of leaves}}$

Starting leaf $\cos(n\theta) \to 0°$

$\sin(n\theta) \to \dfrac{90}{n}$

$\dfrac{\pi/2}{n}$

* Limacons

$r = b \pm a\cos\theta$

$r = b \pm a\sin\theta$

$|b| > |a| \Rightarrow$ No inner loop

$|b| < |a| \Rightarrow$ inner loop (adds "0" as an intercept)

x-axis $(\cos\theta)$ $\Big\rangle$ $a + b$

y-axis $(\sin\theta)$ $a - b$

Other intercepts $\pm b$