

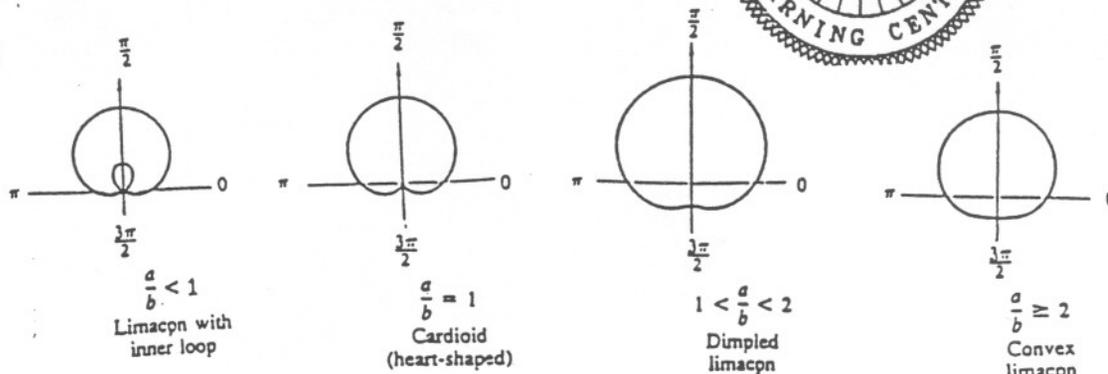
SPECIAL POLAR GRAPHS



Limaçons

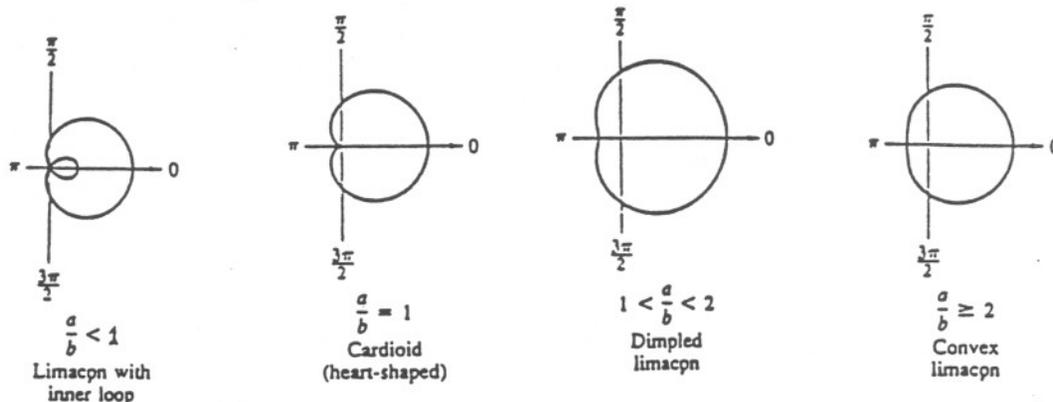
$$r = a + b \sin \theta$$

$$a > 0 \quad b > 0$$



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

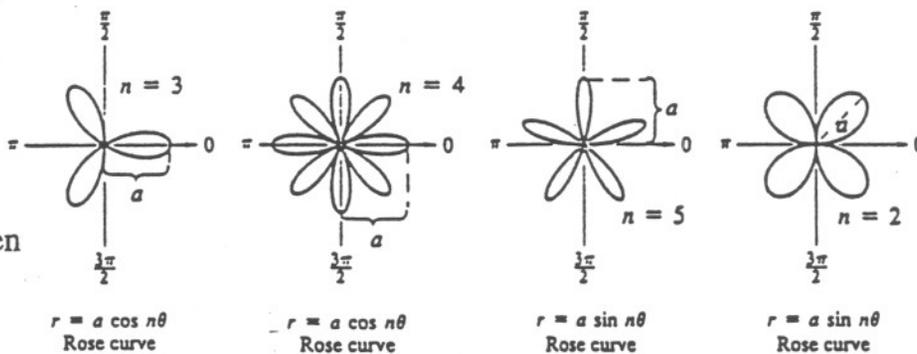
$$a > 0 \quad b > 0$$



Rose Curves

$$a > 0$$

n petals if n is odd
 $2n$ petals if n is even
 $(n \geq 2)$



Circles and Lemniscates

$$a > 0$$

