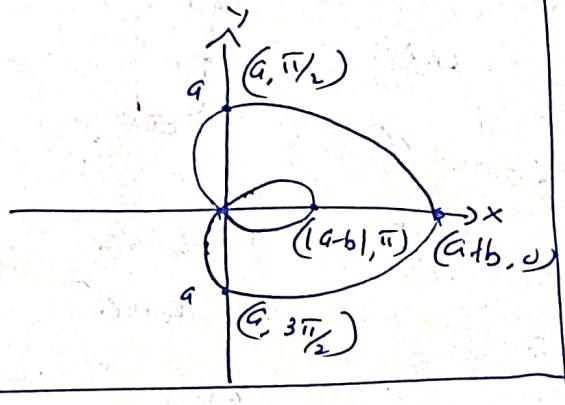
Limacons : $r = a \pm b\cos\theta$

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

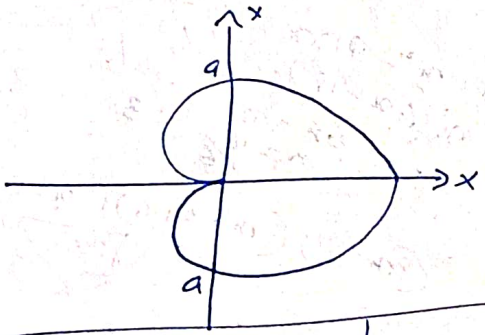
Cardioid is a special case of Limacons.

$r = a + b\cos\theta$

if $a < b$

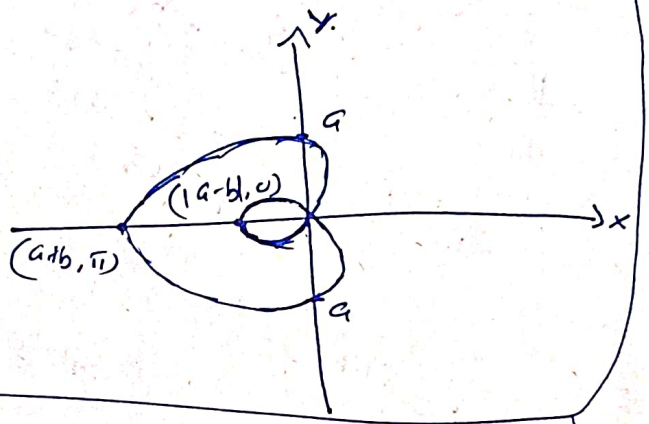


if $a = b$

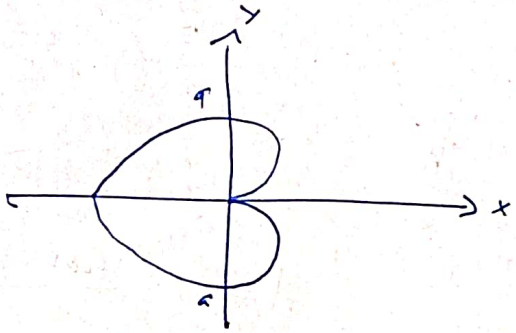


$r = a - b\cos\theta$

if $a < b$

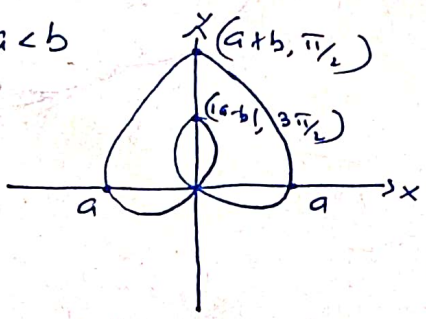


if $a = b$

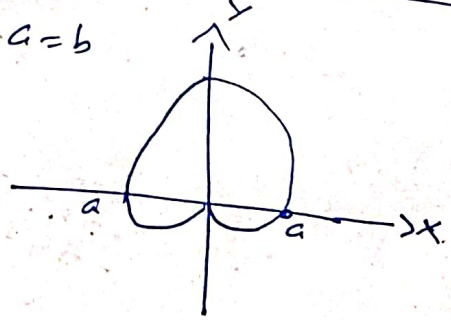


$r = a + b\sin\theta$

if $a < b$

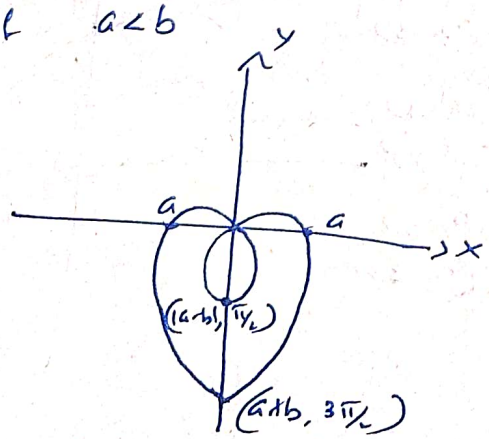
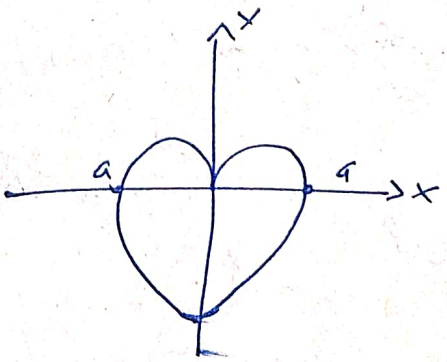


if $a = b$



$r = a - b\sin\theta$

if $a < b$



if $a = b$