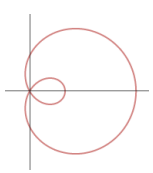
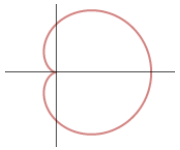
precalc 9.6 notes

Precalc notes 9.6

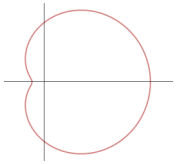
Graphs of Polar Equations



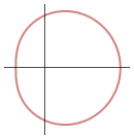
Limaçon w/ inner loop



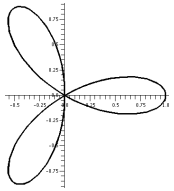
Cardioid



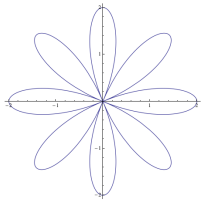
Dimpled limaçon



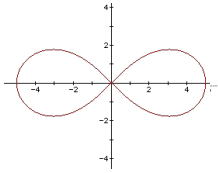
Convex limaçon



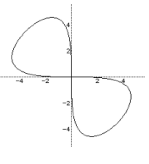
Rose curve w/ 3 petals



Rose curve w/ 8 petals



Lemniscate



Lemniscate

For each problem, graph the polar equation into the calculator. Then a) identify the graph, b) find the zeros and maximum *r*-values (in degrees), and c) sketch the graph

1) $r = 3 \sin \theta$

2) $r = 4 \cos 2\theta$

3) $r = 4 (1 - \cos \theta)$

4) $r^2 = 4\sin 2\theta$

5) $r = 4 \sin 7\theta$

6) $r^2 = 25\cos 2\theta$