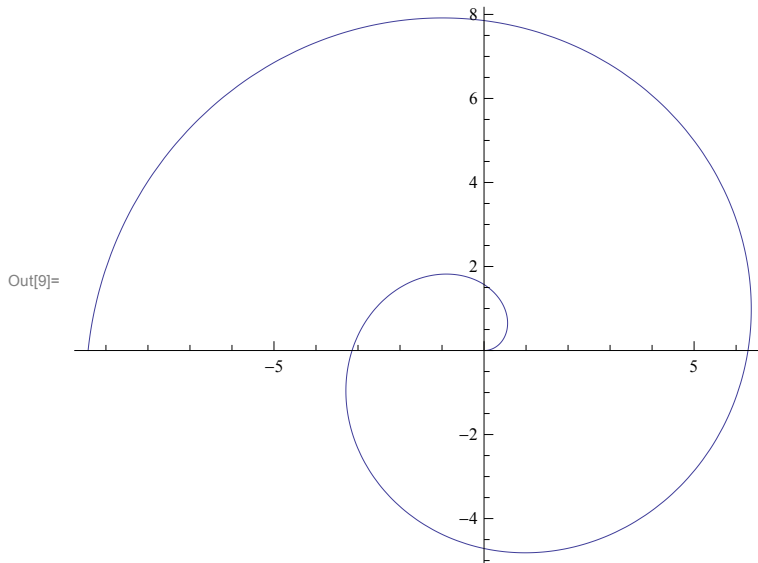


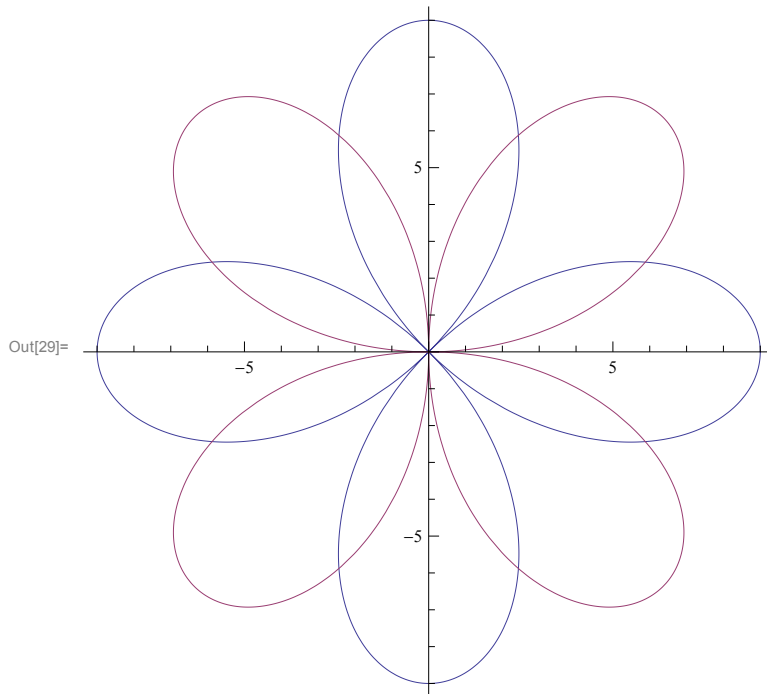
Here are the plots of a few polar curves:

This is the plot of $r(\theta) = \theta$

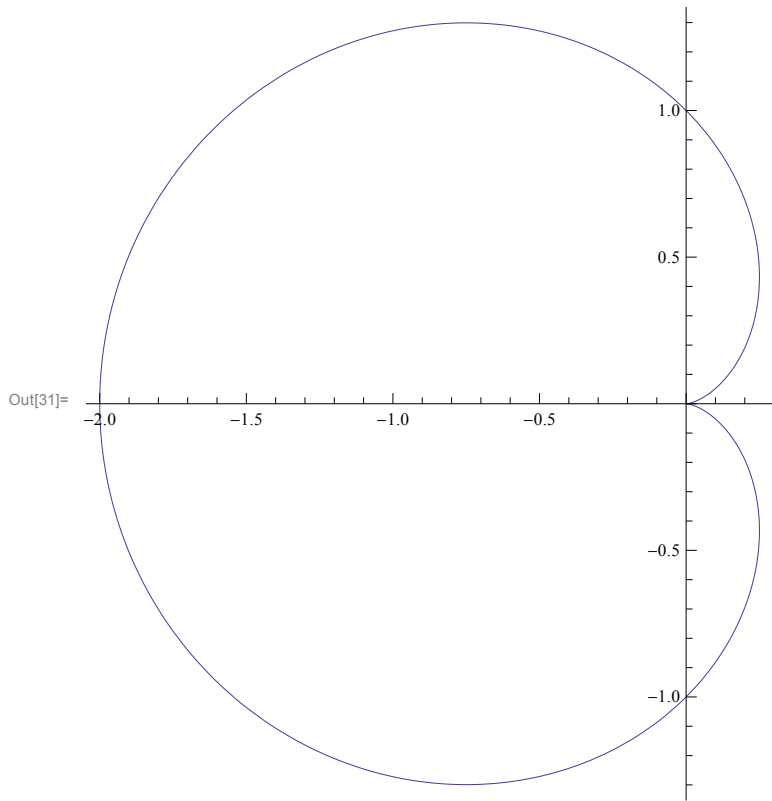
```
PolarPlot[ $\theta$ , { $\theta$ , 0, 3 Pi}]
```



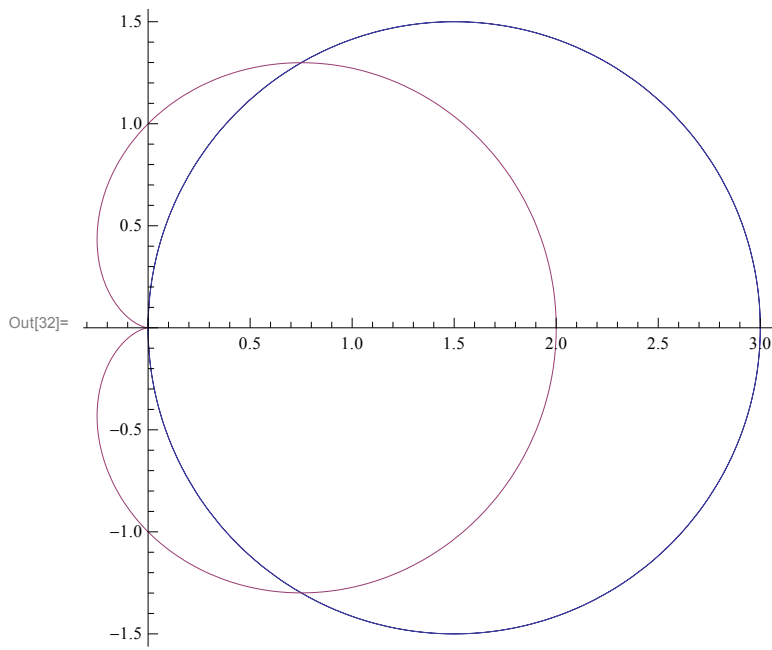
```
PolarPlot[{ $3^2 \text{Cos}[2\theta]$ ,  $3^2 \text{Sin}[2\theta]$ }, { $\theta$ , 0, 2 Pi}] (* the first function is blue *)
```



```
In[31]:= PolarPlot[(1 - Cos[t]), {t, 0, 2 Pi}]
```



```
In[32]:= PolarPlot[{3 Cos[t], 1 + Cos[t]}, {t, 0, 2 Pi}]
```

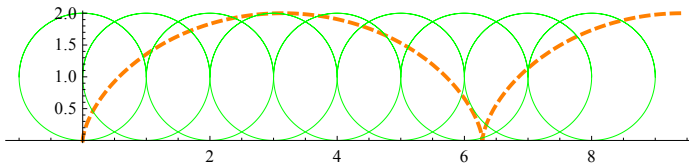


In[53]:=

```

ParametricPlot[{{t - Sin[t], 1 - Cos[t]},
  {Cos[t], 1 + Sin[t]}, {1 + Cos[t], 1 + Sin[t]}, {2 + Cos[t], 1 + Sin[t]},
  {3 + Cos[t], 1 + Sin[t]}, {4 + Cos[t], 1 + Sin[t]}, {5 + Cos[t], 1 + Sin[t]},
  {6 + Cos[t], 1 + Sin[t]}, {7 + Cos[t], 1 + Sin[t]}, {8 + Cos[t], 1 + Sin[t]}},
{t, 0, 3 Pi}, PlotStyle -> {Directive[Dashed, Thick, Orange],
  Green, Green, Green, Green, Green, Green, Green, Green, Green}]

```



This is a cycloid $(\{t - \text{Sin}[t], 1 - \text{Cos}[t]\})$. Note that it is the locus of the bottom of the initial circle.