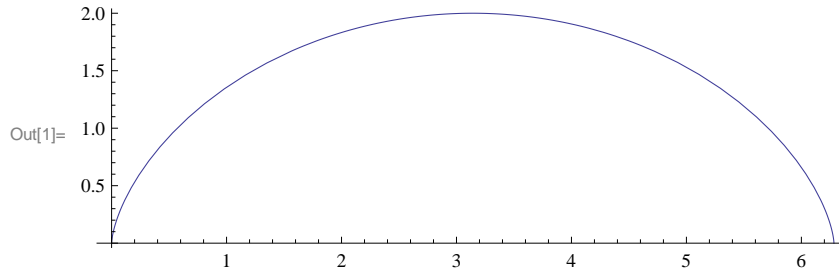
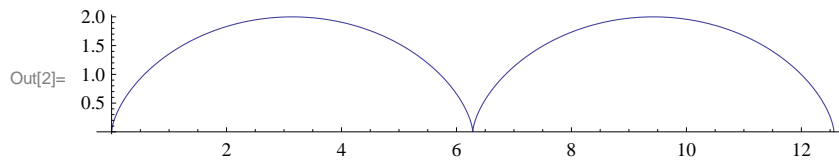

Plot the cycloid. Compare it to a semi-circle. They are different!

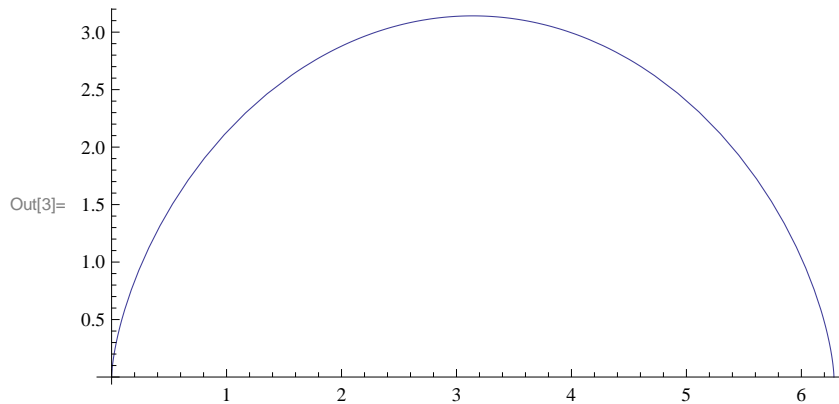
```
In[1]:= ParametricPlot[{ $\theta - \sin[\theta]$ ,  $1 - \cos[\theta]$ }, { $\theta$ , 0,  $2\pi$ }]
```



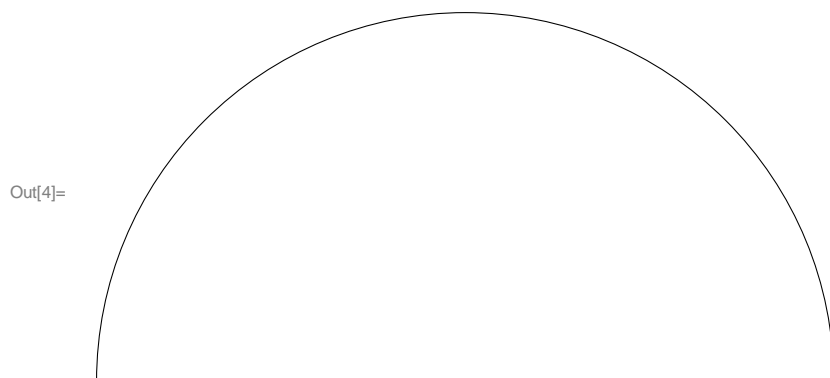
```
In[2]:= ParametricPlot[{ $\theta - \sin[\theta]$ ,  $1 - \cos[\theta]$ }, { $\theta$ , 0,  $4\pi$ }]
```



```
In[3]:= p1 = ParametricPlot[{ $\theta - \sin[\theta]$ ,  $(\pi/2) * (1 - \cos[\theta])$ }, { $\theta$ , 0,  $2\pi$ }]  
(* Is this a semi-circle? *)
```



```
In[4]:= p2 = Graphics[Circle[{ $\pi$ , 0},  $\pi$ , {0,  $\pi$ }]]
```



```
In[5]:= Show[p1, p2] (* The cycloid and semi-circle are slightly different!! *)
```

