

Section 003 of Calculus Lab 2,
Quiz of March 11, 2003
10:00-10:15 a.m.

Name (clearly printed): _____

Student Identification Number: _____

The first three digits of your Student Identification Number specify an integer. As your first Input statement to be evaluated, set `id` equal to that integer. Thus, if your Student Identification Number were 123-45-6789, you would write and evaluate `id = 123` as your first line of Input. Then, your first Input and Output would look like

```
In[1]          id = 123
```

```
Out[1]         123
```

Throughout, write `t` in place of θ .

Problem 1. Have MATHEMATICA evaluate one at a time each of the four Input statements that are given in terms of typewriter characters by

```
<<Graphics`Graphics`  
  
<<Miscellaneous`RealOnly`  
  
f[t_] = id*Sin[3*t]^(1/13)  
  
PolarPlot[ f[t], {t, 0, Pi} ]
```

(where `'` appears on the key to the left of 1) and sketch the corresponding polar plot that MATHEMATICA gives as Output for the last Input.

Output:

Problem 2. Print a MATHEMATICA Input statement (in InputForm) as well as the corresponding Output statement for the purpose of using **NIntegrate** to find the area of any one of the three petals of the preceding polar curve.

Input:

Output: