Fun Parametric Equations
Due Friday, May 1, 2009

This goal of this project is very simple: You are to use parametric plots, polar plots, and any other fun functions you want to create a drawing in Maple.

For example, try the following in a Maple worksheet:

```
[> with(plots):
[> p1 := polarplot(5+sin(3*theta),theta = 0 .. 2*Pi,color = magenta,scaling = constrained)
[> p2 := plot([2*cos(t), -1+2*sin(t), t = 5*Pi/4 .. 7*Pi/4],color = red)
[> p3 := plot([-2+.8*cos(t), 2+.6*sin(t), t = 0 .. 2*Pi],color = blue)
[> p4 := plot([2+.8*cos(t), 2+.6*sin(t), t = 8*Pi/7 .. 13*Pi/7],color = blue)
[> display(p1,p2,p3,p4)
```

A couple of comments:

- You should make sure that at least one of your plots contains the option *scaling=constrained*. This will keep Maple from scaling your plots differently in the x and y directions.
- You should use *at least* 50 different functions in your final image.
- *The more creative you are with this, the better your grade will be.* For example, you would not earn a high grade for using just lines, circles and ellipses or only one color.
- For those of you who have had linear algebra, you know how to stretch, skew, and rotate via matrix multiplication. This gives you and easy way to manipulate any parametric plot.

  If you haven't had linear, ask me (or someone who has had linear) and we can explain it to you pretty quickly.
- **First draft due Wednesday, April 8**: You should turn in a hand-drawn sketch of your final project and also a print out of your Maple worksheet containing a *rough* idea of your image (with at least five functions). This will count for 5% of your project grade.
- We'll have show-and-tell at the end of the semester where everyone can see each other's projects.
- You should turn in a printout of your final picture (not the entire worksheet!), and email me a copy of your Maple worksheet.
- Finally, **Have a lot of fun with this!!!!**