Homework Assignment – Extra Credit

This assignment asks you to learn about parametric curves (by reading Section 1.7 of the textbook) and about how to find slopes of tangent lines to such curves (by reading the discussion on pp. 225-226 in Section 3.5 of the textbook). I will answer questions you have on this material if you meet with me outside class, but I will not lecture on this material in class.

Due Wednesday, November 29, 2006

Turn in the problems below for extra credit. Your work must be neat and organized – work that is disorganized or hard to read will not be graded. This includes all graphs.

Section 1.7, # 6, 10, 16
Section 3.5, # 70, 74

Graphing Parametric Curves on a TI-82/83

• To change the calculator into the parametric equation mode, press [MODE], use your down arrow key and right arrow key to highlight “Par”, and press [ENTER].

• Press [Y =]. Now you can enter formulas for $x$ and for $y$ in terms of the variable $T$. If you press the button $[X,T,\theta,n]$, the calculator automatically uses $T$ instead of $X$ when you’re in this mode.

• It’s important to make sure all “WINDOW” options are appropriate for your graph. If you press the [WINDOW] button, you’ll notice that in addition to minimum and maximum settings for $X$ and $Y$, you also must enter settings for $T$. You may have to play with these values to get a good graph. The smaller that “Tstep” is chosen, the smoother your graph will look (and the longer it will take to graph).