EE341.01 PROBLEM SET (PS) #1 FALL 1997

DUE: W 9/3/97

1. Read sections 1, 2, 3, 7, 8 of the EE341 MATLAB Tutorial and use MATLAB to work through the examples. There is nothing to turn in for this part.

2. Given the 2x2 matrices $A = \begin{bmatrix} 4 & 2\pi \\ \sin(\pi/6) & -2 \end{bmatrix}, B = \begin{bmatrix} 1 & 3 \\ -1 & 4 \end{bmatrix}$, use MATLAB to find the following:

   a) A+B

   b) A*B

   c) A^{-1} (the inverse of A), type `help inv` in MATLAB for help with this calculation

   d) |A| (the determinant of A), type `help det` in MATLAB for help with this calculation

   Turn in a printout of your MATLAB work for this section.

3. Given the complex number $c = 1 + j$ in rectangular form, use MATLAB to find its magnitude and angle (in degrees) for representation in polar form. Turn in a printout of your MATLAB work for this section.

4. Given $x(t) = 1.5e^{-2t}\cos(8t + 0.1)$, use MATLAB to plot x vs. t for $0.0 \le t \le 3.0$ in steps of 0.01. Make sure to add a grid to your plot, label your axes, and give the plot a title that includes your name, course title, and the date. To get a print out of your plot that is visible in the graphics window, type `print` at the MATLAB prompt or select `File->Print` in the graphics window. Turn in the labeled plot of x vs. t for this section.

Note: The `diary` function described in the tutorial will be the best way to save your MATLAB work for parts 2 and 3 so that it can be printed out and turned in.