Physics 9 Spring 1996

Homework Assignment 1.

I. Look up the N[] command. Then evaluate the following expressions:

a) $\frac{123456}{654321} - \frac{54321}{12345}$

b) 17/136 to six decimals

c) $(i-2)^2 + i^3 - (8+7i)^3$

d) $\sqrt{\pi}$ to 16 decimals

e) $\cos(\frac{\pi}{4})$

II. Look up the Expand[], Factor[] and Solve[] commands. Then compute and simplify:

a) $(a+x)^n - (a-x)^n$ with $n = 2$

b) above with $n = 3$

c) Expand out $(ax^2 + bxy + cy^2)^2$.

d) Solve the equation $ax^2 + bx + c = 0$.

III.

Look up the Plot[] command. Then plot the following functions:

a) $sin(x^2)$ in $(0, 2\pi)$

b) $3\ e^{-x} cos(2x)$ in $(0, \pi)$

c) $tan(sin(x)) - xlog(x)$ in $(1, 2)$

d) $sin(x)cos(2x)sin(3x)cos(4x)$ in $(0, \pi)$