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 $(0, \pi)$