Phys 448 HW 3

1-6) BD Chapter 3 #1-6. Use Mathematica on #s 1 and 6. For #6 b, ignore the instructions about $\Delta$ if you wish. For #6c, I found it easier to answer the question using the equation for *R* instead of *T.* Also, the atoms for which this occurs are Argon, Krypton, and Xenon (the effect does not occur for Helium and Neon). The 0.7 eV number is for Xenon.

Mathematica hint: here is a piece of convenient code for handling complex conjugates, and an example of its use. Warning: it assumes that all the variables in your expression are real.

```
In[209]:= conj[x_] := x /. Complex[a_, b_] → Complex[a, -b]

In[210]:= conj[a + i b]

Out[210]= a - i b
```