PHY 410
HW#4
Assigned 2 Feb 09: Due 9 Feb 09

4.1 Problem 1, Chapter 3 of Kittel and Kroemer (Text) (10 points)
4.2 Problem 2, Chapter 3 of Kittel and Kroemer. (10 points)
4.3 Problem 3, Chapter 3 of Kittel and Kroemer. (10 points)
4.4 Consider three magnets (moment m, field B, pointing either up or down). Write down all the microstates and their energies. Calculate the partition function $Z(3,\tau)$. Show that $Z(3,\tau) = [\ Z(1,\tau)]^3$. We have calculated $Z(1,\tau)]$ in the lecture.

$$Z(1,\tau) = 2\cosh\left(\frac{mB}{\tau}\right)$$