

### Third Assignment; Chapter 17.

Students should be able to tackle these problems by the end of the fourth week, October 26. However, most of the material covered in this assignment should have been dealt with by the end of lecture 12, 10/19.

There are a number of concepts we skipped or hand-waved over in this chapter, and I do not expect students to be able to understand questions that pertain to these sections.

While students may not fully understand the idea of a partition function, however, all relevant problems in statistical mechanics need the partition function. So, if one has not fully grasped this concept of a PF, at least one should not have any problems applying the PF to evaluate macroscopic thermodynamics parameters.

Attempt the following problems:

1, 2, 3, 5 (this should be fun, if you remember your trig functions)

6, 8, 9, 11, 12, 14 (déjà vu!)

15, 16, 18 (interesting...)

20, 24, 25, 26, 27, 32, 33 (do not be put off by the three moments of inertia; they end up not figuring in the final computation).

34, 35, 38

We skipped over degeneracy, but the concept is not difficult, and is dealt with in just over half a page only on page 716. Students are urged to glance over this page.