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Physics 404 **HOMEWORK ASSIGNMENT #3** **Spring 2013**

Due date: Thursday, Sept. 29 **Deadline:** Tuesday, Oct. 1

1. (10) 2.3 Probabilities of 2-state system: flipping 50 coins. It is easiest to use Excel, as in class, for part g; in fact, you can use it for the whole problem, printing out for each value of the number of heads, the multiplicity and the probability, and then circling the values requested in the problem.

2. (10) 2.8 a-d Two small Einstein solids

3. (10) 2.24 Multiplicity of a large 2-state paramagnet, analogous to work on Einstein solids.

4. (5) 2.26 Multiplicity and entropy of ideal gas in flatland. You do not need to rewrite the whole derivation; just point out how each term in Eq. 2.40 changes when one goes from 3D to 2D.

5. (5) 2.32 Find the entropy of your result in S 2.26, applying Stirling's approximation explicitly.