META

Berlekamp-Welsh, Countability, Self Reference, Counting

1 General Comments

1. Counting: 1.1
   - Make sure to give a general intro on stars & bars problems, so that students can gain intuition on how to convert problems they see into stars & bars.
   - Ensure that students understand (in)distinguishable balls/(in)distinguishable bins. Like stars & bars, students should be able to understand what problems correspond to balls & bins/stars & bars, etc.
   - Only do extra problems if you have time
   - Feel free to just skim over theorems
2. Combinatorial Proofs: #1, 2, 3
3. Discrete Probability: #1 (very basic for later in the week people)
   - Disjoint vs Independent. The easiest way to emphasize this difference is through the venn diagrams above (disjoint events are almost always DEPENDENT).
   - Uniform probability space and how to calculate probabilities using set sizes in that space.
   - Feel free to come up with your own probability space problems. If students are shaky on the concepts, I recommend the following problems (only the solutions are below, but you can guess what the questions were.. Walrand seems to llike these divide-up-your-outcome-space problems
   - For problems on worksheet, just need to know that there are exactly 4 Kings in a deck of cards Also, for each add that you are drawing exactly 2 cards in the manner described

4. Monty Hall: Walk through the thing on the board so they see why the probability changes
    - Explain how conditional probability works before letting students try to do this themselves (should cover in discrete probability section above)
    - Important that students understand why grouping the doors together is essential to this problem

2 Questions