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## 15-151 Math Foundations CS – EXCEL

Topic: **Counting, Relations**  
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Academic Development  
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Services available: Supplemental Instruction (SI), Academic Counseling in Study Skills, Individual & Walk-in Tutoring

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### **Section I.**      Group Project – Devise a Worksheet

In the first half of this session, you and your group will devise a worksheet for the topic assigned. The worksheet should target students who have a good foundation knowledge of the topic (that is, basic definitions, theorems, and useful conclusions) and are seeking for more practice problems and reviews (for the coming exam on that topic). The difficulty level can and most likely vary throughout your worksheet, but the general range is from an easy 3-mins direct application problem to a 10-mins exam problem (with perhaps sub-problems). The entire worksheet should take a student roughly 20 minutes to complete. Your worksheet will be given to another group to actually work on, and you will check their solutions in the end, so I suggest you devise a solution manual as well. Following is a list of resources and worksheet techniques you can employ. I suggest you combine multiple of them.

- ✓ Clive Notes definitions, theorems, propositions
- ✓ Clive Notes example and exercise problems
- ✓ Google example and exercise problems (you need to carefully evaluate things on the inter-web)
- ✓ Past homework or EXCEL problems (but do not simply reuse the exact same problems)
- ✓ Technique – just practice problems
- ✓ Technique – incomplete outlines (like we had in past sessions)
- ✓ Technique – draw concept map (like we once had in exam review)
- ✓ Technique – draw concept matrix (like outlines, but in the form of matrix)
- ✓ Technique – ask the student to devise a practice problem (a recursive approach, of course in the end you have to check if the problem the other group comes up with is legitimate)
- ✓ Technique – fun math puzzles or comics (but this wastes your time, because the other group will probably spend zero minute on that, so you still need roughly 20 minutes of legitimate stuff)
- ✓ Anything else (but you need to carefully evaluate things you put on your worksheet)

\* You may choose to write up the worksheet by hand, or type it up on a laptop. The bottom line is, you will be able to share the worksheet with another group. You do not need to make more than one copy.

## **Section II.**    Work a Worksheet

Now, you and your group will together work on a worksheet created by another group. If you have any questions about things on the worksheet, keep them aside and continue working.

Take roughly 20 minutes for this section, and we will move on to the final section today.

## **Section III.**    Communication & Evaluation

All groups now come together and discuss questions and thoughts on the worksheets.

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**Space to Draw**