

Math 2001 - Group Homework 3

- Use the Group Work Report form, as you did last week. Your group's work product will be the filled-in Group Work Report, along with solutions to the assigned work given below. For now, these can both be handwritten, but must be written **neatly**. Turn both of these in.
- As before, elect a leader, a scribe and a presenter for this week for your group. The job of the leader is to keep the group on task and to fill in the Group Work Report. The job of the scribe is to record and write up everything to be handed in. The job of the presenter is to present any of these problems to the class, if necessary. The group leader should record on the Group Work Report who is taking each role. These roles will switch each week.
- For the rest of the meeting, the leader should record on the Report of Group Work any questions for your Instructor (anything your group was not able to resolve together), along with a basic narrative description of events of the meeting. Help the leader by suggesting how to briefly summarize what transpired, and wait for the leader to finish.
- **Main Task 1:** Allow each group member to ask questions on any homework, reading, quizzes and class notes since you last met. Continue until everyone understands all of the questions and everyone else's answers, and all questions and concerns have been resolved. If something is unresolved, put it on the list of questions for your Instructor.
- **Main Task 2 (Recommended but not required):** Create summary notes for sections 2.1-2.5 of the textbook. As before, each group member should arrive prepared to contribute to the list of key concepts. Collate these ideas, organize them, and add brief explanations or examples to create a document you can use for review later in the semester. You are not obligated to do this or to turn this in, but you may choose to do so if you would like to share your outlines with the class.
- **Main Task 3 (Recommended but not required):** Go over the set cards again, to make sure you understand any mistakes you made on Group Homework 1. Go to the file links page on the course website to find the set cards and the answers to the questions about them from Group Homework 1.
- **Main Task 4:** Complete and turn in solutions to the Conditional Practice worksheet. Turn in just one copy. You can find a blank copy of the worksheet on the course website (within the schedule, or on the File Links page).
- **Main Task 5:** Answer the following questions. Do not arrive to your meeting already having solved them. Instead, work them together as a group at your meeting.
 1. Use truth tables to prove that $\sim (P \Rightarrow Q)$ is logically equivalent to $P \wedge \sim Q$. Don't forget to include a concluding sentence.
 2. Explain in one or two sentences why it makes intuitive sense that $\sim (P \Rightarrow Q)$ is logically equivalent to $P \wedge \sim Q$.
 3. For each of the following statements, determine if they are true Always, Sometimes, or Never.
 - If A and b are sets and $A \subseteq B$ and $B \subseteq A$, then $A = B$.
 - If the logical expression R is logically equivalent to the logical expression S , then $R \Leftrightarrow S$ is a tautology.
 - If $P \Rightarrow Q$ is a tautology, then the converse is a tautology.
 - If an integer x is divisible by 2, then it is divisible by 6.
 - If an integer x is divisible by 15, then it is divisible by 5.
- Before the meeting ends, help the leader make sure that the Group Work Report has been filled in and everyone has signed it. The scribe will take home the final solutions you have written together as a group and type them, or write them up neatly and turn them in. I recommend that the scribe send the final copy to the groupmates to proofread before submitting them.