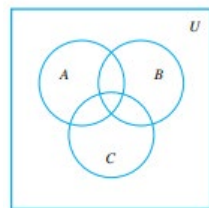


Instructions:

- This CD follows the procedures spelled out in your syllabus. That is, this CD is **closed book, closed internet, closed fellow students**. However, you may use any **handwritten** notes (of your creation) in your notebook.
- Points will be awarded based on your explicit answers. Partial credit will be given where possible, so show work where appropriate.
- There is a 50-minute time limit. .
- If you need more room than is provided, please ask for additional paper, clearly write your name and the question number on this page and attach to your CD.

You should be able to:

1. Given the definition of several sets, indicate whether various statements about those sets are True or False.
 - Exercises 3.1.1, 3.1.2, 3.1.4, 3.1.6, 3.2.1
2. Express a set in set builder notation
 - Exercise 3.1.5
3. Given the definition of a set, indicate the value of the power set of that set.
 - Exercises 3.2.2, 3.2.3
4. Given the definition of one or more sets (including in set builder notation), match the shorthand notation for that definition.
 - Similar to exercise 3.4.3
5. Given the definition of one or more sets (including in set builder notation), indicate the results of standard set operators including union, intersection, complement, etc.
 - Exercise 3.3.1, 3.3.4, 3.4.1, 3.4.2, 3.4.4
6. Given a set operator, identify the regions of a Venn diagram contained in the result of the operator.
 - For example:
 $A \oplus B$



7. Given two sets and a proposed relation between the sets, indicate whether the relation is a function.
 - Challenge activity 4.1.1
8. Relate a defined function to its various vocabulary terms such as the target and the range of the function, the image of the function and the reverse-image for the function.
 - Exercise 4.1.1, 4.1.2 and 4.1.3, 4.4.1, 4.4.2
9. Properly identify whether a given function exhibits special properties of functions such as one-to-one (injective) and onto (surjective).
 - Exercises 4.3.1, 4.3.2,
10. Given two or more functions, identify the result(s) of the composition of those functions.
 - Exercises 4.5.1, 4.5.2, 4.5.5