Review Sheet for Math 125-B01 Summer 2014 Test 1

1. Know what quantifiers are and how to negate them

2. Know Exercise 34 in Chapter 0.2

3. Understand Disjunctive Normal Form (DNF) and write a statement in DNF

4. Construct the truth table of a logical expression

5. Validate a logical equation using either a truth table or basic logical equivalences.

6. Verify a logical argument or state conditions under which it is not logical.

7. Understand and construct the Power Set of a given set.

8. Understand set union, intersection, complement, difference and symmetric difference

9. Know DeMorgan's Laws

10. Know the Cartesian Product of a set

11. Use a Venn Diagram to graphically depict sets and subsets

12. Understand what is meant by a binary relation.

13. Determine if a relation is reflexive, symmetric, anti-symmetric, or transitive, possibly using a table.

14. Know what is meant by an equivalence relation (ER), and determine if a given relation is an ER.

15. Understand what is meant by an equivalence class and the Quotient Set of a set mod ~ (A/~).

16. Know the proofs of Propositions 2.4.3 and 2.4.4.

17. Know what a partition of a set is, and that an equivalence relation partitions a set.

18. Understand what is meant by a Partial Order, and a Partially Ordered Set.

19. Be able to arrange "words" into lexicographic order.

20. Create or interpret a Hasse Diagram.