MA 110-91
§1.1 – 1.5

Quiz #1

score

Name: ————————————

31 May 2002

1. Use a properly labeled Venn diagram to determine the validity of the following argument. Explain. *(5 points)*

   > 1. All smart people are logical.
   > 2. Jim is logical.
   > ———————————————————
   > Therefore Jim is a smart person.

2. Write the converse, contrapositive, and inverse (and label them) of the statement "If it rains today, then I will play racquetball." *(5 points)*

3. Verify that the logical expressions $\sim(p \lor q) \equiv \sim p \land \sim q$ (one of DeMorgan's laws) are logically equivalent using truth tables. *(5 points)*

4. Express the following argument as a symbolic expression and determine if it is a valid argument by building its truth table on the back page of the page. *(5 points)*

   If Jim studies well, he will make a good grade in this class. If Jim is bright, he will make a good grade in this class. Jim is not bright and does not study well. Therefore, Jim will not make a good grade in this class.