Assignment 1, Math 240, Fall 2005

Due: August 30. Value: 25 pts.

Based on August 23 material

- §1.1 (p 16): 10abcd
- §1.1 (p 17): 18abfg
- §1.1 (p 22): 22a
- §1.1 (p 22): 24ce
- §1.2 (p 27): 24. Do not use a truth table; instead, use a sequence of equivalences from page 24, as illustrated in examples of page 25.
- §1.2: Simplify the following expressions so each NOT ($\neg$) occurs directly before a variable. Justify the inversion using a sequences of equivalences from page 24.

  a. $\neg(a \wedge (b \vee c))$

  b. $\neg(a \rightarrow (b \vee c))$

Based on August 25 material

- §1.3 (p 40): 10bej
- §1.3 (p 44): 58
- §1.4 (p 52): 10dehi
- §1.4 (p 54): 32bc
- §1.4 (p 56): 48. Use notation $a \in B$ to denote the predicate that a value a is in a set B. Use notation $a \leq b$ to denote the predicate that a value a is less than or equal to b.