MATH 302. Discrete Mathematics

Assignment 5. Due on Wednesday, March 11, 2009

Read: Sections 2.3, 2.4 and 4.1.
Problems to be graded:
§2.4 Page 160: 4, 7, 17.
§4.1 Page 279: 5, 10, 11, 15, 19.

Also do the following problems:

Let g be a function from the set A to the set B and let f be a function from the set B to the set C. Let h be composition of f and g, i.e., $h = f \circ g$.

1. Prove that if h is one-to-one, then g must be one-to-one.
   Give an example to show that f is not necessarily one-to-one.

2. Prove that if h is onto, then f is onto.
   Give an example to show that g is not necessarily onto.

Other problems:
§2.4 Page 160: 2, 3, 9, 10, 13, 14, 15.
§4.1 Page 279: 6, 9, 13, 18, 22,