Collected Homework: Valid Arguments

Math 110 Section 2
Due February 20, 2008

On another piece of paper (or papers) complete the following. You may work with someone or on your own to do this assignment. If you do work with someone, please indicate that you did so. Each person should write up his or her own assignment. Please be neat and if you have more than one page, staple your work.

1. Make a truth table for the statement \[ (A \lor \sim B) \Rightarrow C ] \land [ B \iff C ] .

2. For each of the following arguments (a) identify the premises and conclusion, (b) represent the argument symbolically (this means you will need to assign variables to each simple statement; remember that “not” is a connective and should not be in your simple statements), and (c) determine if the argument is valid. Justify your answer with complete sentences!

   (i) If it is Saturday, then I will sleep in. I don’t sleep in. Therefore it is Saturday.

   (ii) David will not register for geoscience or Scott will not register for geoscience. David registered for geoscience. Therefore Scott did not register for geoscience.

   (iii) If Carla moves to Boston, then she will learn to ski. If Carla learns to ski, then she will move to Boston. Therefore, Carla moves to Boston and she learns how to ski.

   (iv) If you attend HWS, then you are intelligent. If you are intelligent, then you know Mark Gearan. Therefore, if you know Mark Gearan, then you attend HWS.