EECS 203-1 - Homework 1
Exercises in Rosen, page 11: 2, 4, 6

2 (a) Not a proposition. (1pt)

   (b) Not a proposition. (1pt)

   (c) A proposition. Either True or False. (2pt)

   (d) Not a proposition. (1pt)

   (e) A proposition. False (2pt)

   (f) A proposition. True (Alternatively, if you say there could be a universe for which + did not mean addition or where a variable had a different value depending on its position relative to the = sign, then it is not a proposition.) (2pt)

4 (a) I did not buy a lottery ticket this week. (1pt)

   (b) I bought a lottery ticket this week or I won the million dollar jackpot on Friday. (1pt)

   (c) If I bought a lottery ticket this week, then I won the million dollar jackpot on Friday. (1pt)

   (d) I bought a lottery ticket this week and I won the million dollar jackpot on Frday. (1pt)

   (e) I bought a lottery ticket this week if and only if I won the million dollar jackpot on Friday. (1pt)

   (f) If I did not buy a lottery ticket this week, then I did not win the million dollar jackpot on Friday. (1pt)

   (g) I did not buy a lottery ticket this week and I did not win the million dollar jackpot on Friday. (1pt)

   (h) I did not buy a lottery ticket this week or I bought a lottery ticket this week and won the million dollar jackpot on Friday. (1pt)

6 (a) If you have a flu, then you miss the final examination. (1pt)

   (b) You pass the course if and only if you do not miss the final examination. (1pt)

   (c) If you miss the final ewamination, then you do not pass the course. (1pt)

   (d) You have the flu, or miss the final examination, or pass the course. (1pt)

   (e) If you the flu, then you do not have pass the course, or if you miss the final examination, then you do not pass the course. (Alternatively: If you have the flu or miss the final examination, you do not pass the course.) (1pt)

   (f) You have the flu and miss the final examination, or you do not miss the final examination and pass the course. (1pt)