80-211: HOMEWORK 7

- You may work with other students from class, but everyone should write up solutions independently.
- Homework is due by the end of class time, either as a hard copy or email attachment.
- Remember that no late homework is accepted, but you have two drops.

(1) (12 points) Exercise 5 (Velleman p. 179)
(2) (32 points) Exercise 12 (Velleman p. 180)
(3) (10 points) Exercise 3.c (Lemmon p. 159)
(4) (10 points) Show, using the definitions, that a sequent $\varphi_1, \ldots, \varphi_n \vdash \psi$ in the predicate calculus is valid if and only if its corresponding conditional is a valid wff.
(5) (36 points) The following would be steps toward proving that our formal proof system is sound with respect to our predicate calculus semantics. Show that each of these inference rules preserves validity; that is, show that if the premisses of a use of each rule are valid as sequents, then so is the conclusion. (For some of these, you might need to think about exactly what you need to show.)
   a) CP
   b) MTT
   c) RAA
   d) EE

Date: Due on Wednesday, April 7.