MATH 571: MATHEMATICAL LOGIC
HOMEWORK SET 7, DUE AT 8:50 ON FRIDAY, OCT. 23

BRING YOUR SOLUTIONS TO CLASS, OR SLIDE THEM UNDER THE DOOR OF
VAN VLECK 403

1. Exercise 2.2.15 from Enderton.

2. Exercise 2.2.28 from Enderton.

3. Give proof trees which show the following:
   a. $\vdash (\varphi \wedge \psi) \to (\varphi \vee \psi)$.
   b. $\vdash (\varphi \vee \psi) \to (\psi \vee \varphi)$
   c. $\vdash (\varphi \to \neg\varphi) \to \neg\varphi$.

4. Give proof trees which show the following:
   a. $\vdash (\neg\varphi \wedge \neg\psi) \to \neg(\varphi \vee \psi)$
   b. $\vdash \neg(\varphi \vee \psi) \to (\neg\varphi \wedge \neg\psi)$.