ECE 300
Spring Semester, 2006
HW Set #5:

Due: February 16, 2006 **Name**_____
wlg Print (last, first)

Use engineering paper. Work only on one side of the paper. Use this sheet as your cover sheet, placed on top of your work and stapled in the top left-hand corner. Number the problems at the top of the page, in the center of the sheet. **Do neat work. Underline your answers. Show how you got your equations**. **Be sure to show how you got your answers.** Each problem counts 10 points.

Work the following problem from the text.

4.34 $R_{TH} = 28\ \Omega$, $V_{TH} = 92$ V

4.36 $R_{TH} = 8\ \Omega$, $V_{TH} = 40$ V, (could also be $V_{TH} = 10$ V depending on where you "look" in) $i = 500$ mA

4.38 $R_{TH} = 58\ \Omega$, $V_{TH} = 19.2$ V, $V_0 = 12.8$ V

4.41 (a) Draw your Thevenin equivalent circuit with actual values on the circuit.
(b) Draw your Norton equivalent circuit with actual values on the circuit.
For the Norton circuit, actually find $I_{\text{short circuit}}$.
$R_{TH} = 4\ \Omega$, $V_{TH} = -8$ V, $I_N = -2$ A

4.47 $R_{TH} = 0.476\ \Omega$, $V_{TH} = 1.19$ V, $I_N = 2.5$ A

4.52 $R_{TH} = 2\ k\Omega$, $V_{TH} = -80$V: Also run Pspice on this problem. Run to determine (and verify) $V_{TH} = V_{OS}$ and again to determine $I_N = I_{SS} = -40$ mA. Include a print outs of each case.

4.53 $R_{TH} = 3\ \Omega$, $I_N = 1$ A: Actually find the short circuit current for I_N. Do not use

$$I_N = V_{TH}/R_{TH}$$

4.54 $R_{TH} = -16.67\ \Omega$, $V_{TH} = 2$ V : V Also run Pspice on this problem. Run to determine (and verify) $V_{TH} = V_{OS}$ and again to determine $I_N = I_{SS} = 16.67$ A. Include a print outs of each case.

4.57 $R_{TH} = 10\ \Omega$, $V_{TH} = 166.7$ V, $I_N = 16.67$ A (Actually find the short circuit current for I_N)

4.64 $V_{TH} = 0$, $R_{TH} = -1\ \Omega$

4.71 $R = 8\ k\Omega$, $P = 1.15$ W