

ECE 300
Spring Semester, 2004
HW Set #7

Desk Copy

March 23, 2004

wlg

Name GREEN
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.

7.6 (a) $i(t) = 8\cos(377t + 68)$ A, (b) $i(t) = 4\sin(377t + 154)$ A = $4\cos(377t + 64)$ A

7.14 $Z_{AB} = 4.79\angle-7.33$ Ω

7.18 $C = 431$ μF

7.21 $v(t) = 5.17\cos(377t + 45)$ V

7.26 $I_L = 1\angle-54.3$ A; $I_C = 0.01\angle 125.7$ A

7.43 $Z = 0.78\angle 130.9$ Ω

7.47 $V_o = 3.09\angle-23.8$ V

7.51 $V_o = 9\angle 51.3$ V

7.52 $V_o = 5.55\angle 86.8$ V

7.68 ~~$V_o = 2.61\angle 125.8$ V (from answer book; not verified, yet)~~

$V_o = 0.485 \angle 104^\circ$ V