

ECE 300
Spring Semester, 2003
HW Set #11

Due: April 21, 2003
wlg
revised April 21

Name _____
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 8 points.

9.6 $P_L = 0 \text{ W}, \quad P_C = 0 \text{ W}, \quad P_{R1} = 1.72 \text{ W}, \quad P_{R2} = 3.43 \text{ W}$

9.8 $P_S = (16.62 + 19.38) \text{ W} = 36 \text{ W}$

9.17 $P_{\text{del}} = 0.481 \text{ W}$ (my solution after working the problem two ways) *

9.22 $Z_L = (3.2 + j2.4) \Omega; \quad P_L = 1.42 \text{ W}$

9.24 $Z_L = (0.55 \angle 33.7^\circ) \Omega; \quad P_L = 0.42 \text{ W}$

9.26 $Z_L = (0.9 - j0.3) \Omega; \quad P_L = 2 \text{ W}$

9.34 $V = 2.31 \text{ V}_{\text{RMS}}$

9.36 $I = 1.29 \text{ A}_{\text{RMS}}$

9.37 $V = 1.63 \text{ V}_{\text{RMS}}$

9.50 $V_S = (301.4 \angle 7.9^\circ) \text{ V}_{\text{RMS}}$

9.55 $V_S = (279.2 \angle 3.5^\circ) \text{ V}_{\text{RMS}}$

9FE-5 $I = 1.47 \text{ A}_{\text{RMS}}; \quad P_{\text{AVG}} = 8.67 \text{ W}$

9.56 $C = 262 \mu\text{F}$

9.61 $C = 586 \mu\text{F}$

* The answer given in the solutions manual for this problem is 0.297 W, which I believe is incorrect. I find all the other answers, as given in the solutions manual, to be correct. That is a good percentage for being correct on these tedious problems. Problems 9.6 through 9.26 require that you to be very careful and very patient.