

**ECE 300**  
**Spring Semester, 2005**  
**HW Set #1**

**January 18, 2005**

**Name** \_\_\_\_\_

wlg

AM

PM

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 3 points.

Review Questions: Suggested study. Do not turn this in.

1.7 No answers given

1.9 (a)  $q = 10 \text{ C}$ , (b)  $q = 22.5 \text{ C}$ , (c)  $q = 30 \text{ C}$

1.10  $q = 120 \text{ mC}$

1.17  $p_3 = 70 \text{ W}$

1.18  $p_1 = -300 \text{ W}$ ,  $p_2 = 100 \text{ W}$ ,  $p_3 = 280 \text{ W}$ ,  $p_4 = -32 \text{ W}$ ,  $p_5 = -48 \text{ W}$

1.19 Hint: sum of power = 0;  $I_s = 3 \text{ A}$

1.25 cost = 21.6 cents

1.34 (a)  $W = 10 \text{ kWh}$ , (b) Average Power = 416.7 W

1.38  $P = 7460 \text{ W}$ ,  $W = 13.48 \times 10^6 \text{ J}$