Homework 2

(Due date: 2014/3/12)

This assignment covers <u>Ch3 and Ch4.1-4.9</u> of the textbook. The full credit is <u>100 points</u>. For each question, <u>detailed derivation processes</u> and <u>accurate numbers</u> are required to get full credit.

1) (10 points) <u>Problem 3.8</u> of the textbook (p100), while the right resistor is changed from 6 Ω to 9 Ω.

2) (10 points) <u>Problem 3.60</u> of the textbook (p107), while the voltage source is changed from 500 V to 900 V and the right resistor is changed from 27 Ω to 17 Ω.

3) (15 points) <u>Problem 3.71</u> of the textbook (p109).

4) (15 points) <u>Problem 4.27</u> of the textbook (p155), while the voltage source is changed from 24 V to 18 V and the voltage-controlled voltage source is changed from $5v_\Delta$ to $3v_\Delta$. Also calculate v_o when the 33-Ω resistor is eliminated.

5) (20 points) <u>Problem 4.38</u> of the textbook (p156), while the voltage source is changed from 135 V to 225 V. Also find the power extracted or dissipated by the current controlled voltage source.

6) (10 points) <u>Problem 4.45</u> of the textbook (p157), while the current source is changed from 20 A to 160 A and the current-controlled voltage source is changed from $6.5i_\Delta$ to

$8i_\Delta$.

7) (10 points) <u>Problem 4.58</u> of the textbook (p158), while the top current source is changed from 4 A to 10 A.

8) (10 points) <u>Problem 4.59</u> of the textbook (p159), while the right current source is changed from 0.6 mA to 1.2 mA.