Student's Name:

**Introduction to Circuit Analysis**

*Homework 8 – Thevenin's, MPT, and Norton theorem*

**Instructions:**

- You have to show all work in order to receive full credit
- All answer must be in engineering notation rounded off to the hundredth

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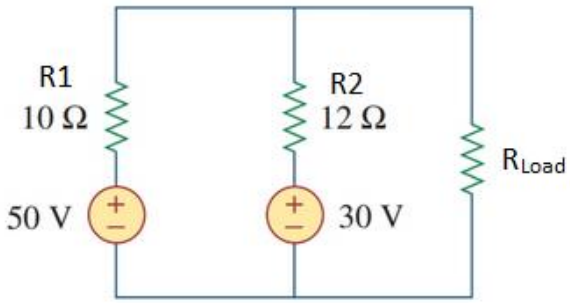
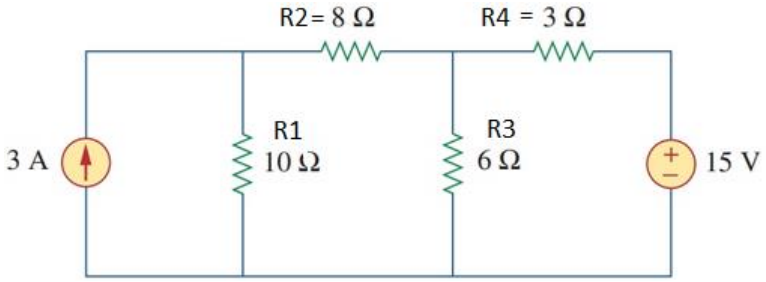
**Question 1)** For the following circuit below:

a. Determine the Thevinin's equivalent circuit (15 pts)
b. Using the Thevenin's equivalent circuit, determine the load resistor if the load voltage drop through it is 10 V (5 pts)
c. Using the Thevenin's equivalent circuit, find the maximum power transfer to $R_{Load}$ (5 pts)
d. Using the Thevenin's equivalent circuit, find the Norton equivalent circuit (5 pts)



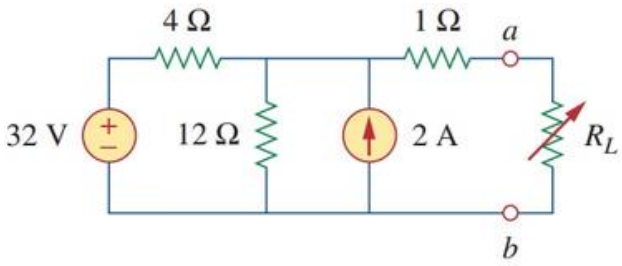

**Question 2**) For the following circuit, assuming that R3 is the load resistor,

a. Find the Thevenin's equivalent circuit for the load resistor $R_3$ (15 pts)
b. According to the Thevenin's equivalent circuit, what will be the voltage through load resistor if $R_L$ = 5 Ω? (5 pts)
c. Using the Thevenin's equivalent circuit, determine the load resistor if the load voltage drop through it is 10 V (5 pts)
d. According to the Thevenin's equivalent circuit, what will be the maximum power transfer through load resistor? (5 pts)
e. According to the Thevenin's equivalent circuit, find the Norton equivalent circuit (5pts)



**Question 3)** For the following circuit below:

a. Determine the Thevenin's equivalent circuit (15 pts)
b. Using the Thevenin's equivalent circuit, determine the voltage through the load resistor $\boldsymbol{R_L} = 10\ \Omega$ (5 pts)
c. Using the Thevenin's equivalent circuit, determine the load resistor if the load voltage drop through it is 8 V (5 pts)
d. According to the Thevenin's equivalent circuit, find the maximum power transfer to $R_L$ (5 pts)
e. According to the Thevenin's equivalent circuit, find the Norton equivalent circuit (5 pts)

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