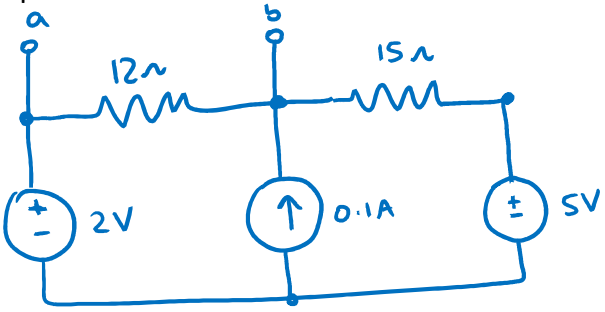
At Tutorial 2 – Marked Question (15th March 2019)

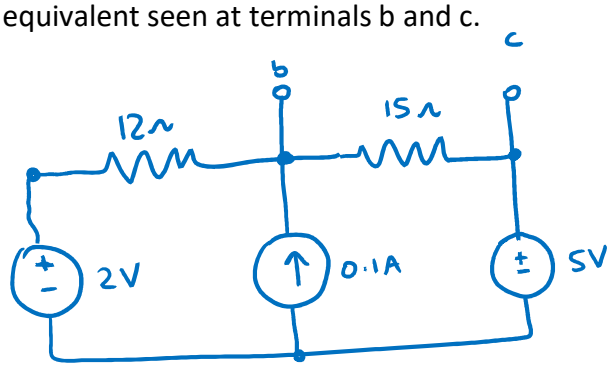
Chapter 5, Ex 45: Thévenin equivalent (use nodal analysis)

For the network below:

a) find the Thévenin equivalent seen at terminals a and b.



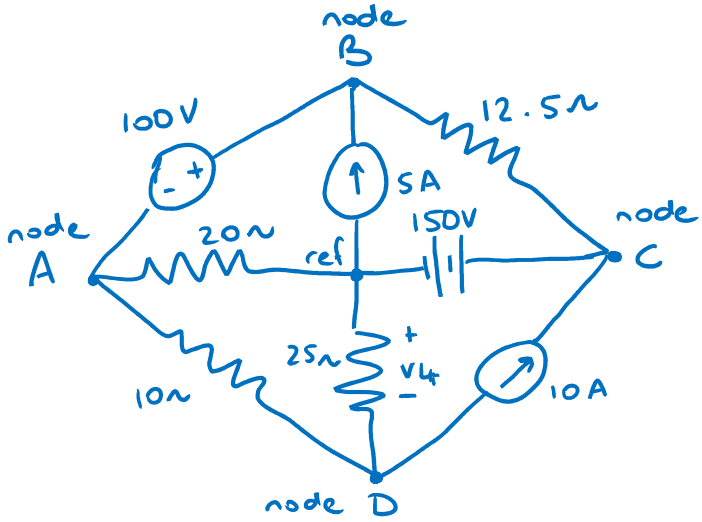
b) find the Thévenin equivalent seen at terminals b and c.



At Tutorial 2 – Unmarked Questions (15th March 2019)

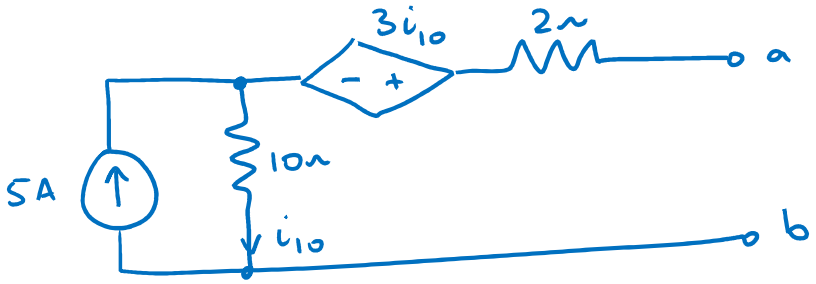
Chapter 4, Ex 16: Nodal analysis

Use nodal analysis to find v_4 in the circuit below.



Chapter 5, Ex 63: Thévenin equivalent

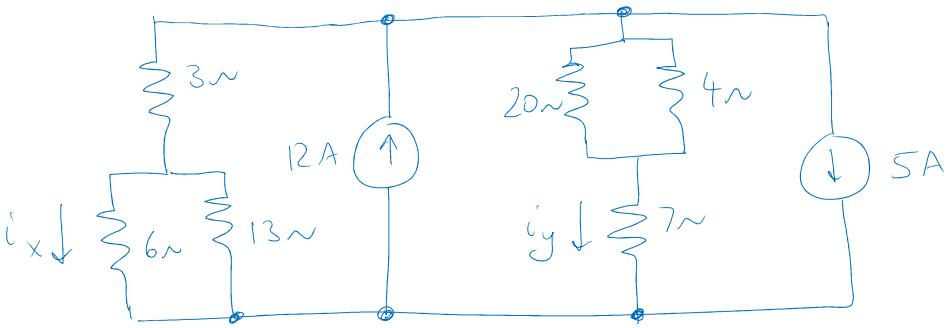
a) Determine the Thévenin equivalent of the network shown below.



Extra Questions for Tutorial 2 (no worked solutions just final answer given)

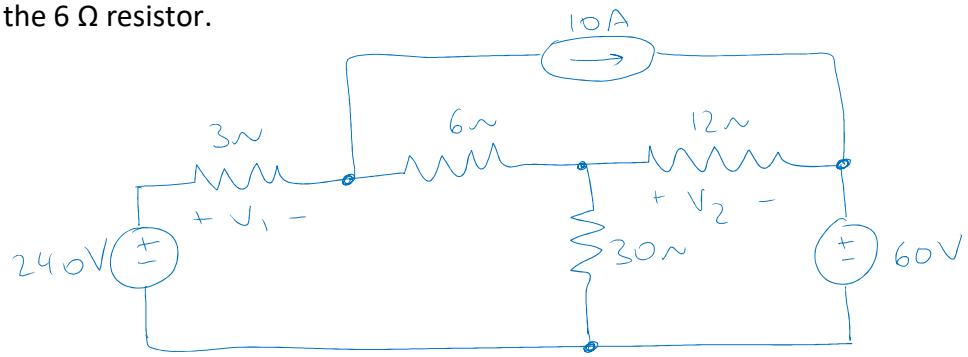
Ch 3, Ex 74: Current divider [Ans: $i_x = 2.837$ A, $i_y = 2.853$ A, P = 51.59 W]

For the circuit below, find i_x, i_y and the power dissipated/ absorbed by the 3 Ω resistor.



Ch 4, Ex 9: Nodal analysis [Ans: $v_1 = 58.5$ V, $v_2 = 64.4$ V, P = 543.4 W]

For the circuit below: (a) Use nodal analysis to determine v_1 and v_2. (b) Compute the power absorbed by the 6 Ω resistor.



Chapter 5, Ex 49: Thévenin equivalent [Ans: see worked solutions]

Find the Thévenin equivalent of the two-terminal network shown below.