

EN811100 LINEAR CIRCUIT ANALYSIS

Assignment 1

Submission: <https://autolab.en.kku.ac.th>

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- * Submit an answer to a question with a file with `txt` extension. E.g., an answer for Q1 should be submitted in a text file "`Q1.txt`"
 - * Each question specifies the format of the gradable answer. Answer a question in a format directed by the question.
 - * All answers must be packaged together in a tar file.
 - * Each question or problem is worth 60 points.
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1. Given circuit diagrams 1.1 to 1.5, find V_1 , V_2 , i_1 , and i_2 in each diagram.

Submission guide: use the `Q1_template.txt` for submission. Do not use prefix, e.g., use 0.018A; **DO NOT USE 18mA**.

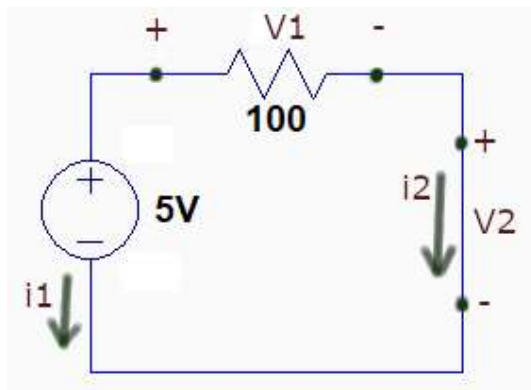


Figure 1 Circuit 1.1

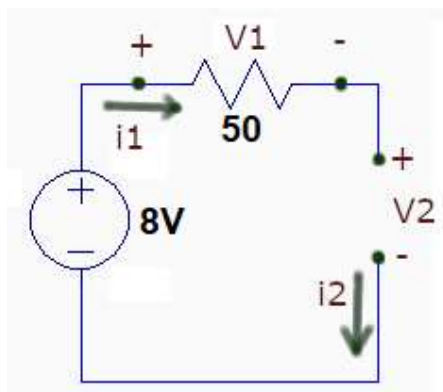


Figure 2 Circuit 1.2

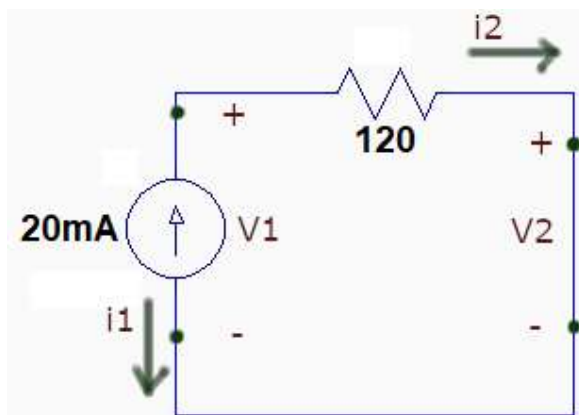


Figure 3 Circuit 1.3

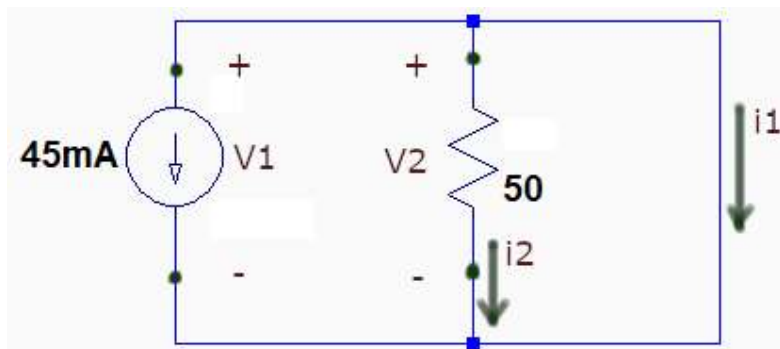


Figure 4 Circuit 1.4

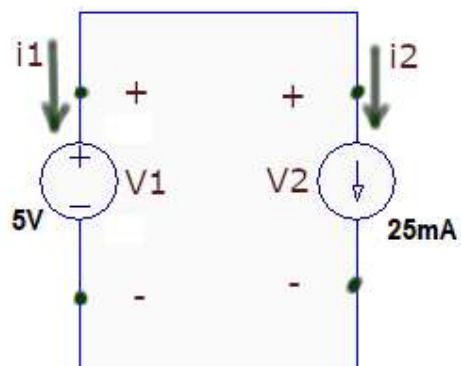


Figure 5 Circuit 1.5

2. Given the circuit diagram 2, answer the following questions:

2.1. Write KVL equation over a loop showing in the diagram. Start from the leftmost device and write terms in order of clockwise direction.

2.2. Write KCL equation of the node n. Start from the leftmost wire and write terms in order of clockwise direction. Use the current value and names shown in the diagram.

2.3. Write property equations of resistors. Start from the leftmost resistor.

2.4. Solve the equations for V_x , V_y , I_x , and I_y in the diagram.

Submission guide: use the Q2_template.txt for submission. Do not use prefix, e.g., use 0.018A; **DO NOT USE 18mA**.

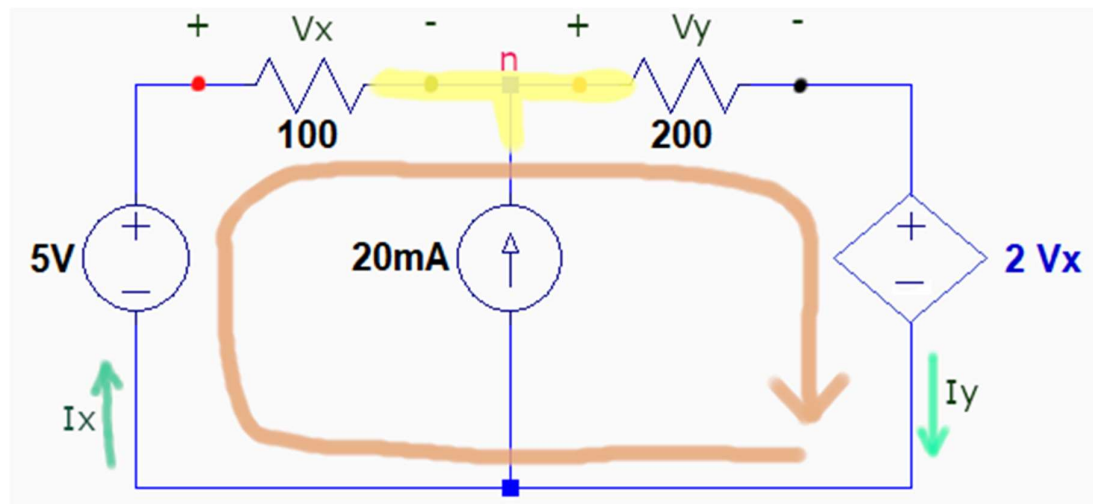


Figure 6 Circuit 2