Basic Circuit Theory (I) 電路學(一)

Dept. of ECE, National Taiwan University of Science and Technology

Homework 1

Due 5:00PM Tuesday, October 11, 2022

1. (10 pts) Please find V_1 in the circuit in Fig. 1.

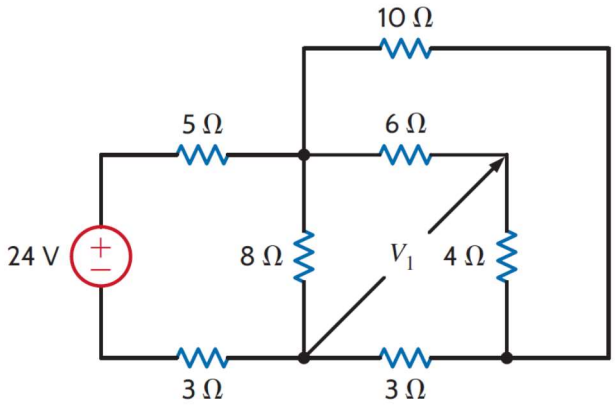

Fig. 1

2. (10 pts) Please find the power supplied by the 36-V source in the circuit in Fig. 2.

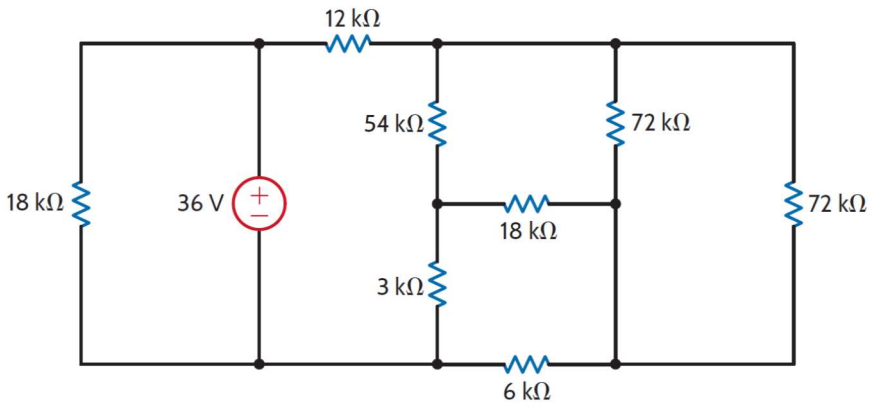

Fig. 2

3. (10 pts) Please find V_o in the circuit in Fig. 3 using nodal analysis.

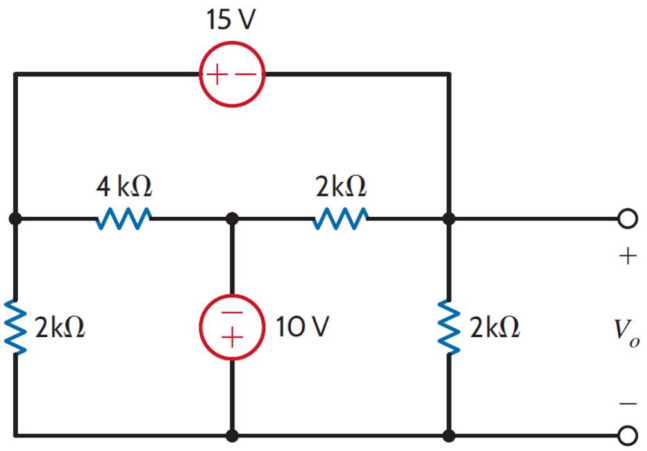

Fig. 3

4. (10 pts) Please find V_o in the circuit in Fig. 4 using nodal analysis.

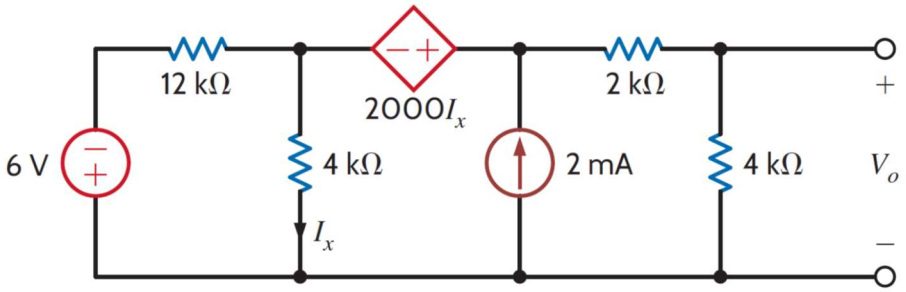

Fig. 4

5. (10 pts) Please find V_o in the circuit in Fig. 5 using nodal analysis.

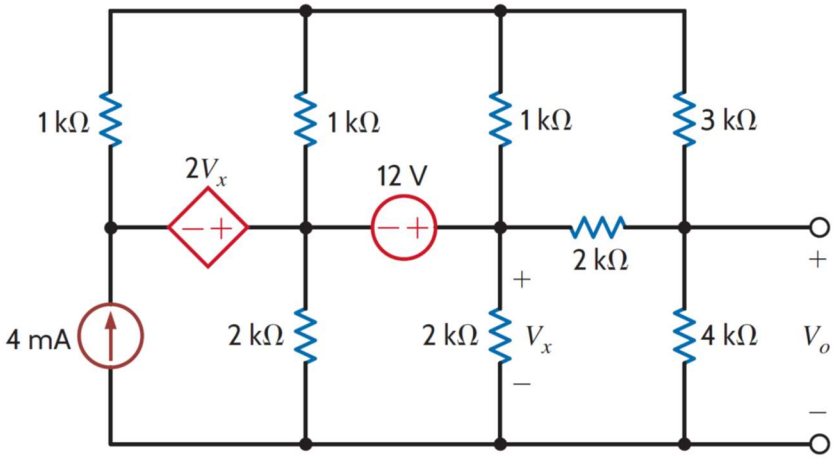

Fig. 5

6. (10 pts) Please find V_o in the circuit in Fig. 6 using mesh analysis.

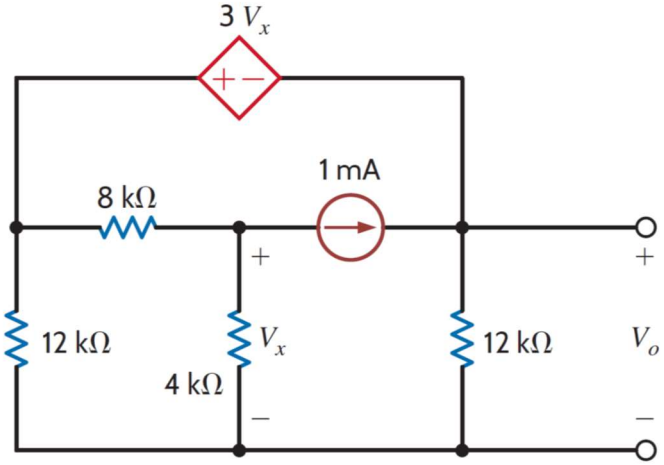

Fig. 6

7. (10 pts) Please find I_o in the circuit in Fig. 7 using loop analysis.

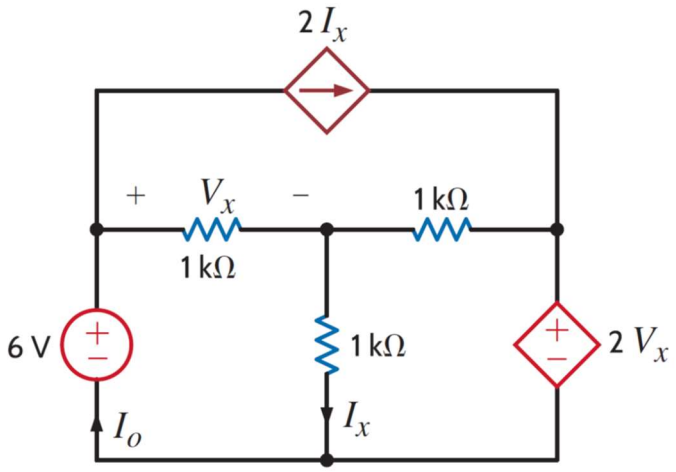

Fig. 7

8. (10 pts) Please find I_o in the circuit in Fig. 8 using Thévenin's theorem.

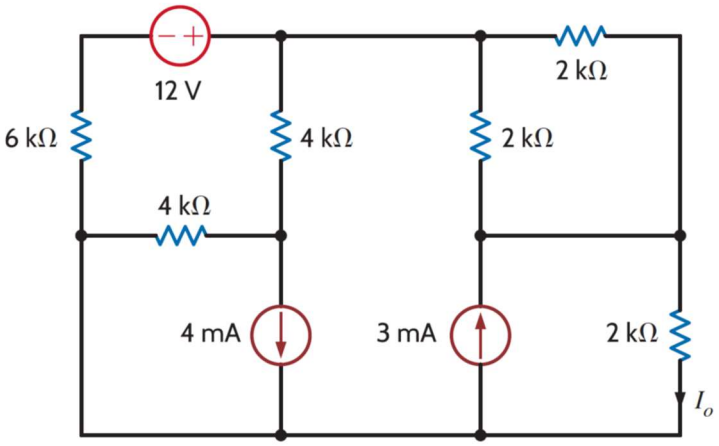

Fig. 8

9. (10 pts) Please find V_o in the circuit in Fig. 9 using Thévenin's theorem.

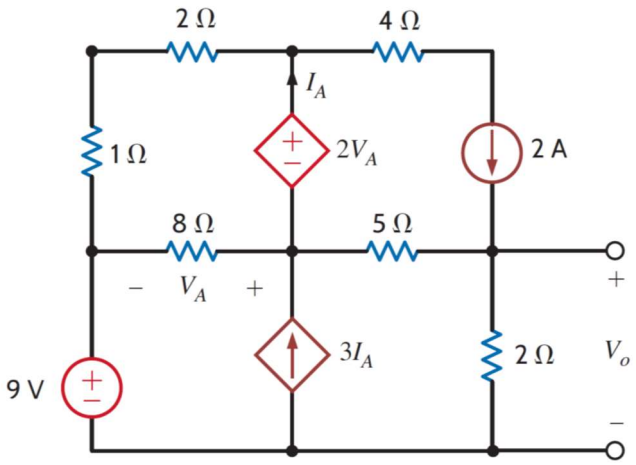

Fig. 9

10. (10 pts) Please find I_o in the circuit in Fig. 10 using Norton's theorem.

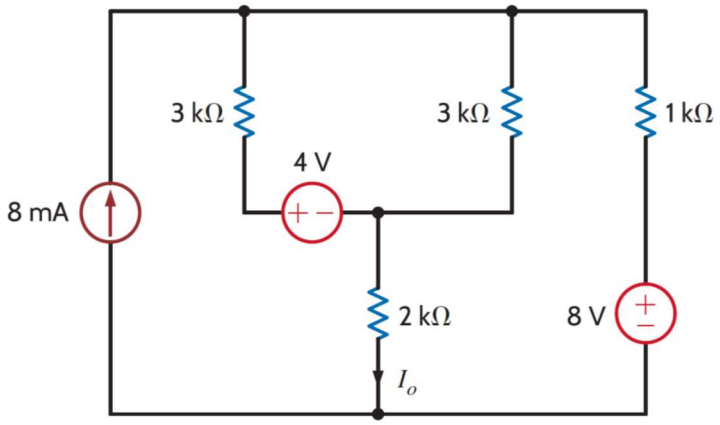

Fig. 10