

EASTERN MEDITERRANEAN UNIVERSITY

DEPARTMENT OF ELECTRICAL AND ELECTRONIC
ENGINEERING

EENG223

CIRCUIT THEORY I

EXPERIMENT 5

SUPERPOSITION

Student Name & Student Number

1.....

2.....

3.....

Object: To investigate the effects of more than one voltage source in a network. •

Construct the circuit in Fig. 5.1 and measure I_1 , I_2 and I_3 .

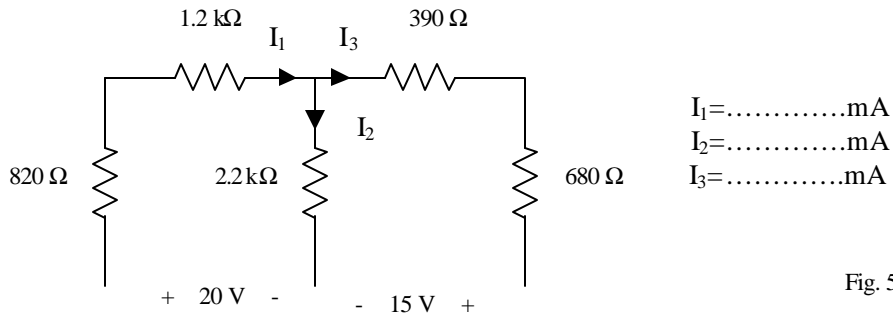


Fig. 5.1.

- Disconnect 15 V supply and construct the circuit in Fig. 5.2 and measure I'_1 , I'_2 and I'_3 .

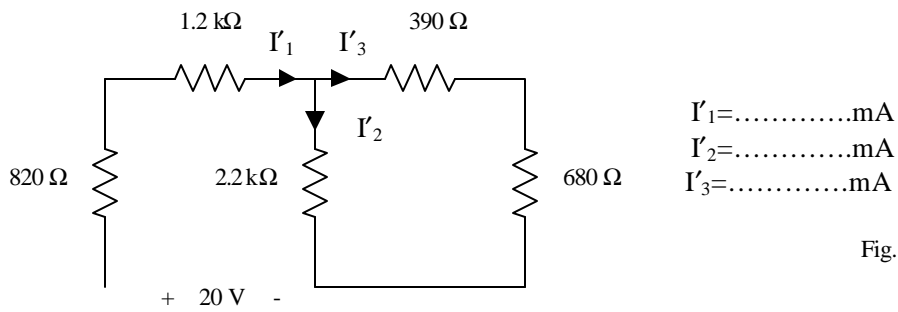


Fig. 5.2.

- Disconnect 20 V supply and construct the circuit in Fig. 5.3 and measure I''_1 , I''_2 and I''_3 .

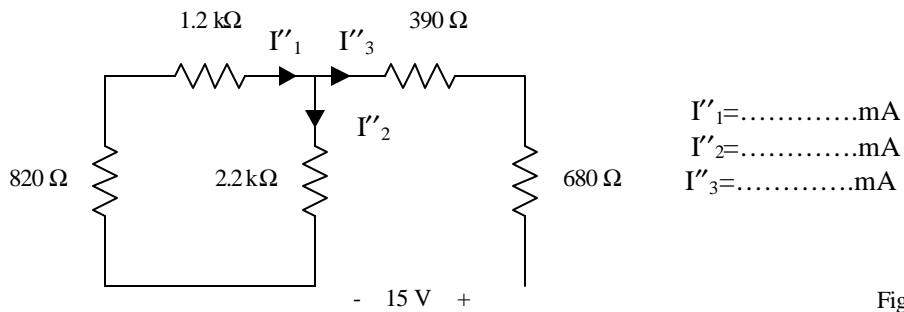


Fig. 5.3.

Questions:

1. Do the current directions agree with those shown in Fig. 5.1 ?
2. Again, do the directions of the currents agree with those shown in Fig. 5.2 ?
3. Can you notice any relationship between I_1 and I'_1, I''_1 ?
4. Does the same relationship hold for I_2 with I'_2 and I''_2 , also I_3 with I'_3 and I''_3 ?
5. Does the algebraic sum of the currents due to individual source equal the total currents due to the two sources ?