**Department of ECE, Bennett University**

**EECE105L: Fundamentals of Electrical and Electronics Engineering**

**Tutorial Sheet-4**

**Topics Covered:** Source Transformation/Source conversion

1. For the circuit shown in Fig. 1, by converting the current source into voltage source, find the current through 91 Ω resistor.

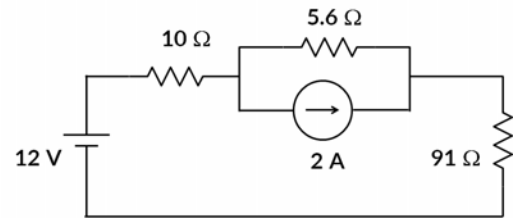


Fig. 1

2. For the network shown in fig. 2, by replacing all the current sources with a single current source, find the source voltage $V_s$.

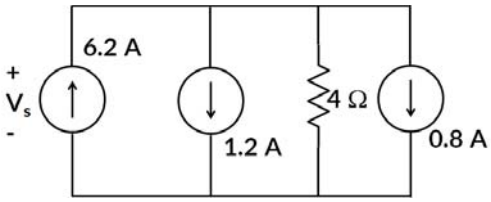


Fig. 2

3. For the network shown in fig. 3, find the voltage $V_s$ and current through 4 Ω resistor.

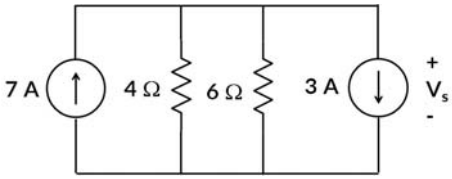


Fig. 3

4. For the circuit shown in fig. 4, determine the current through 12 Ω resistor by changing the voltage sources into current sources.

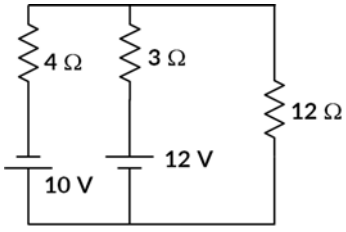


Fig. 4

5. In the circuit shown in fig. 5, find the voltage $V_{ab}$ and current through 6 Ω resistance.

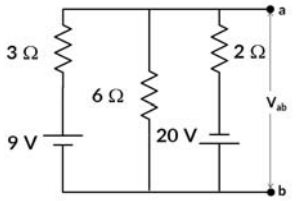


Fig. 5

6. For the circuit shown in fig. 6, find the voltage $V_s$ and current through 12 V source.

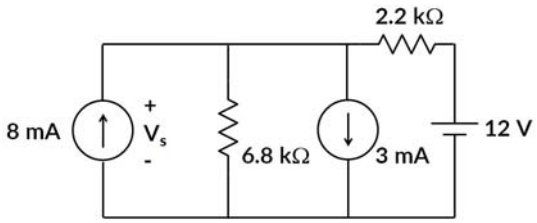


Fig. 6

**Source Transformation/ Source Conversion**

1) 218 mA
2) 16.8 V
3) 9.6 V, 2.4 A
4) 0.19 A
5) -7 V, -1.17 A
6) 17.35 V, 2.43 A