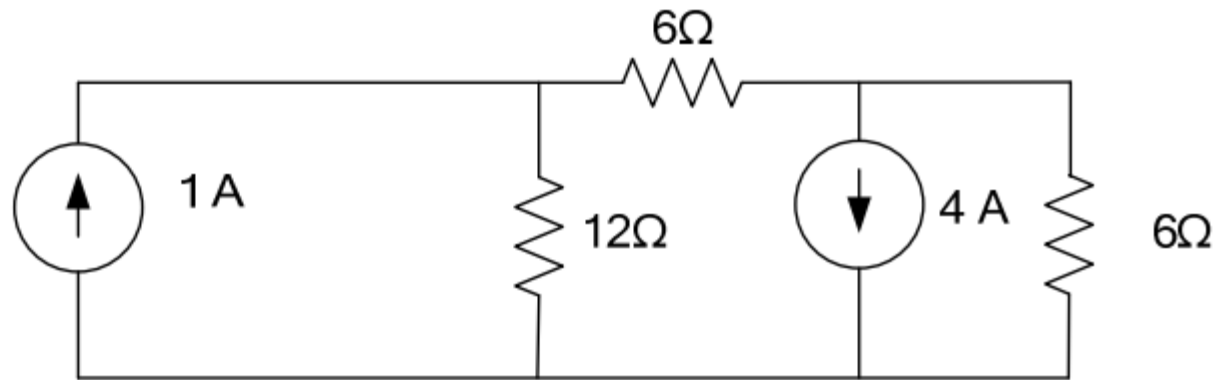# Assignment 1A

BEC, IIITS

Nodal analysis
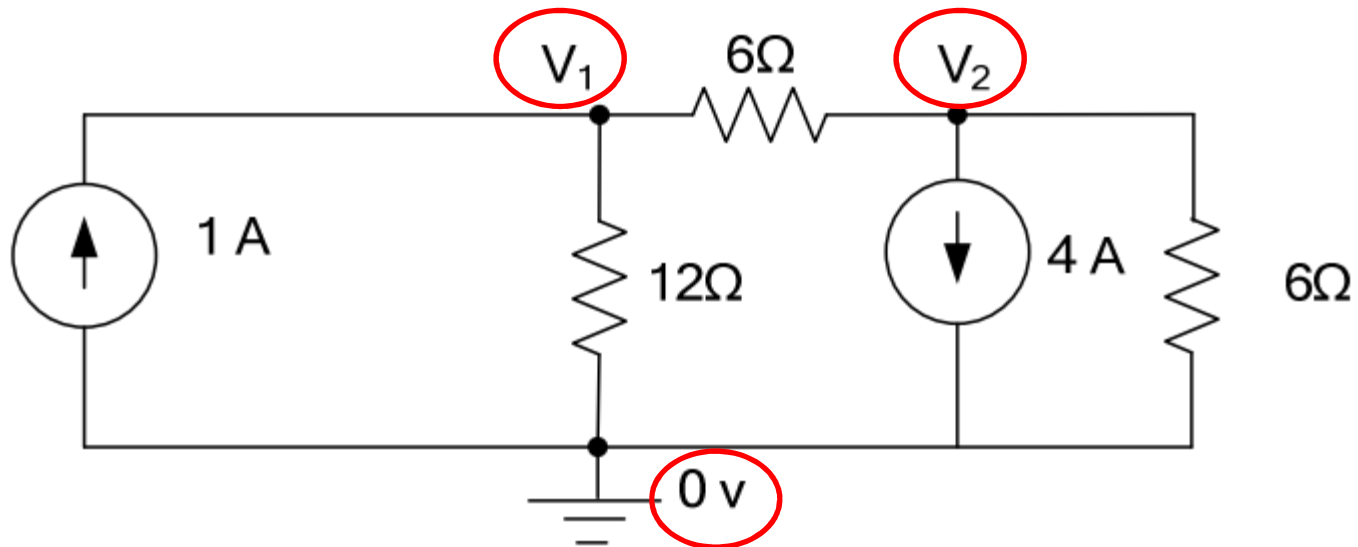
- Problem 1

Find the node voltages of the following circuit.
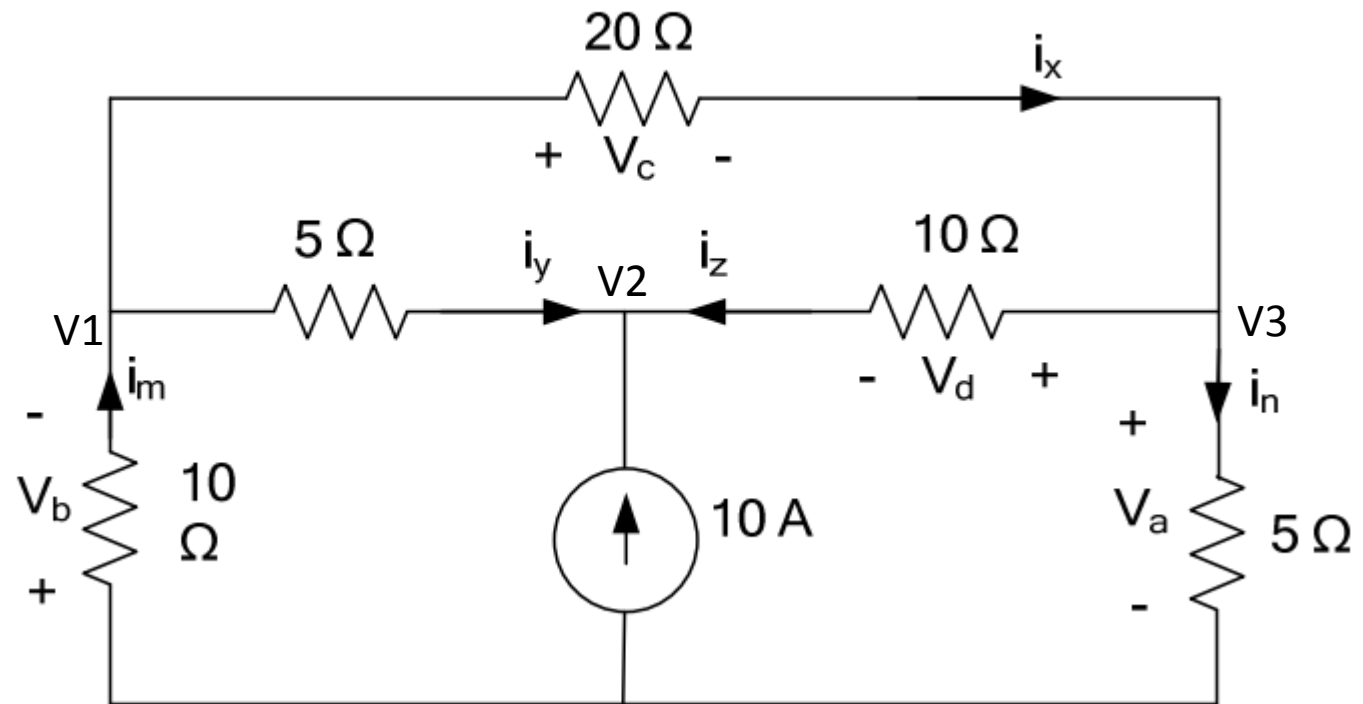

$$V_1 = -6V$$
$$V_2 = -15 \text{ V}$$

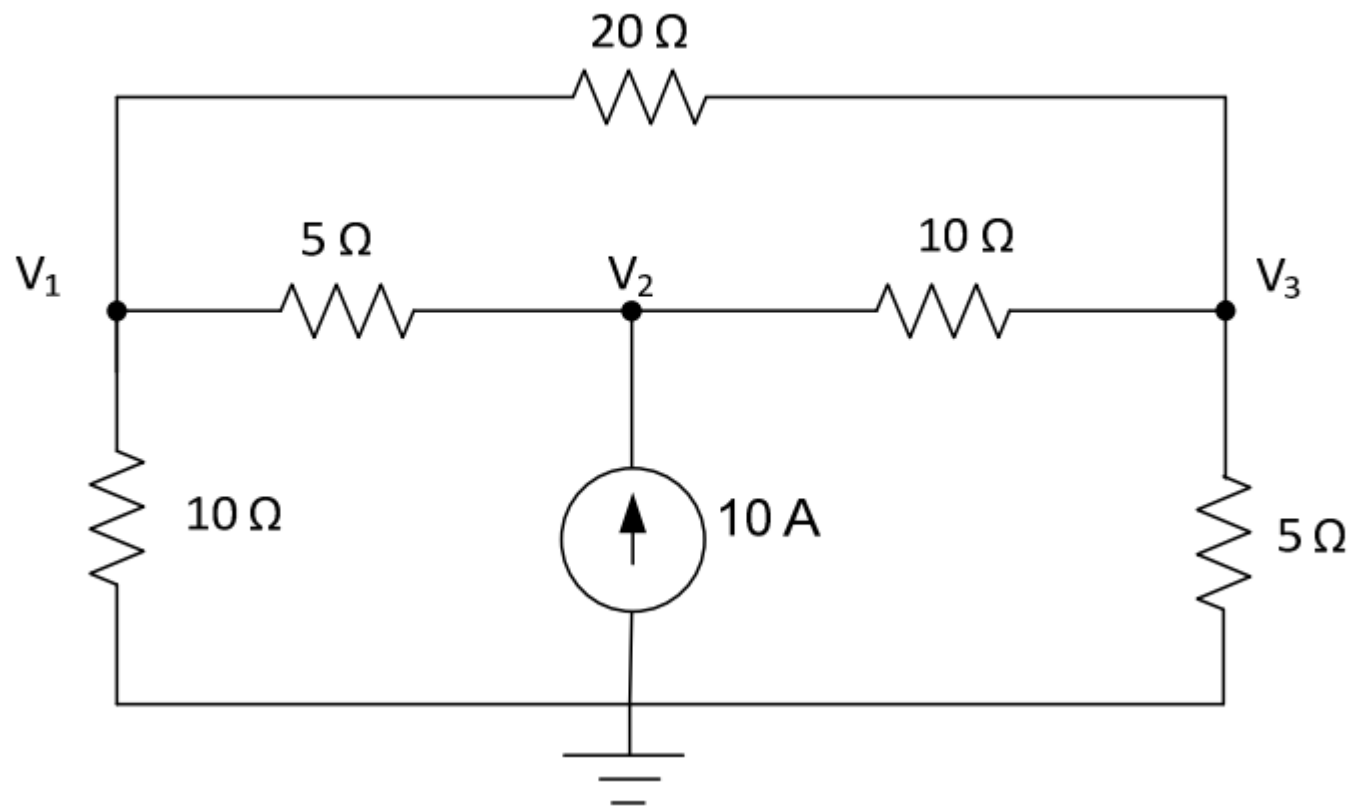- Assign voltages

- Problem 2

Use the nodal analysis to find the i_x, i_y, i_z, i_n, i_m, V_a, V_b, V_c, V_d.
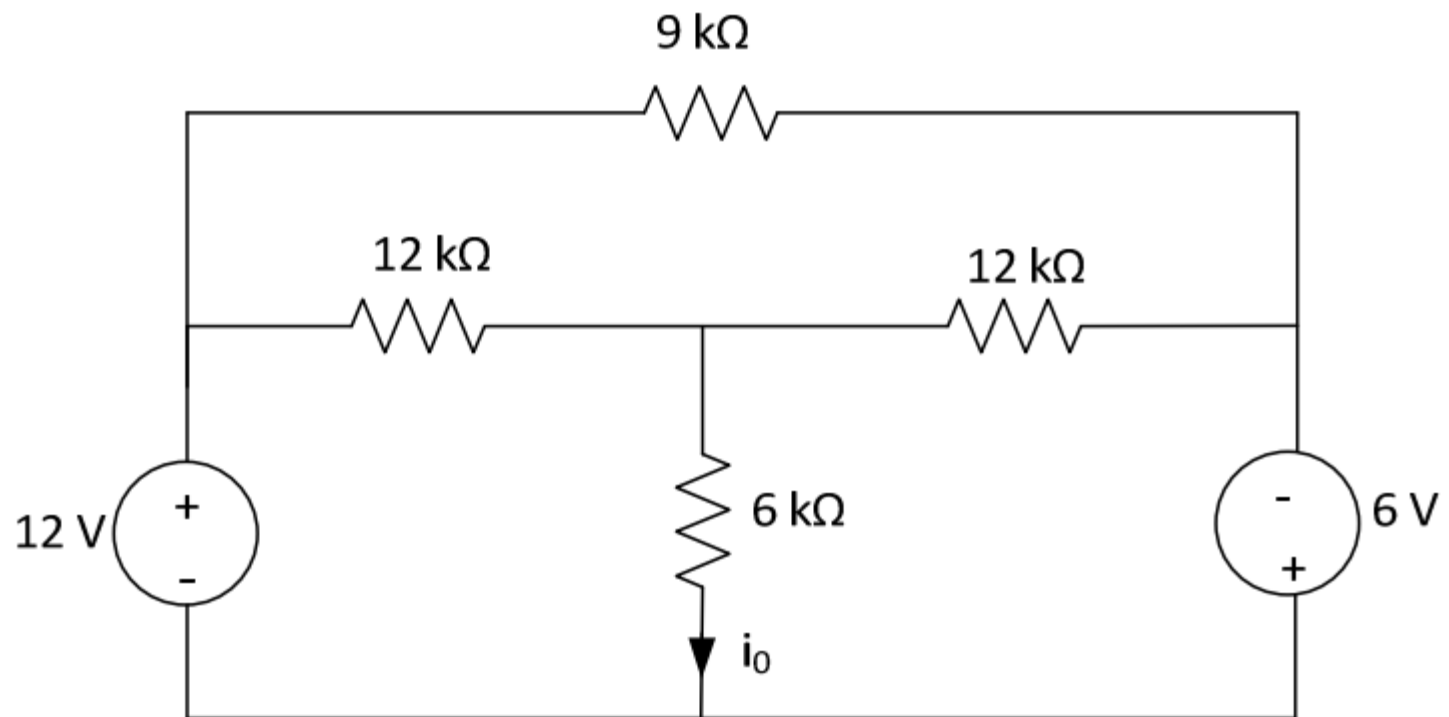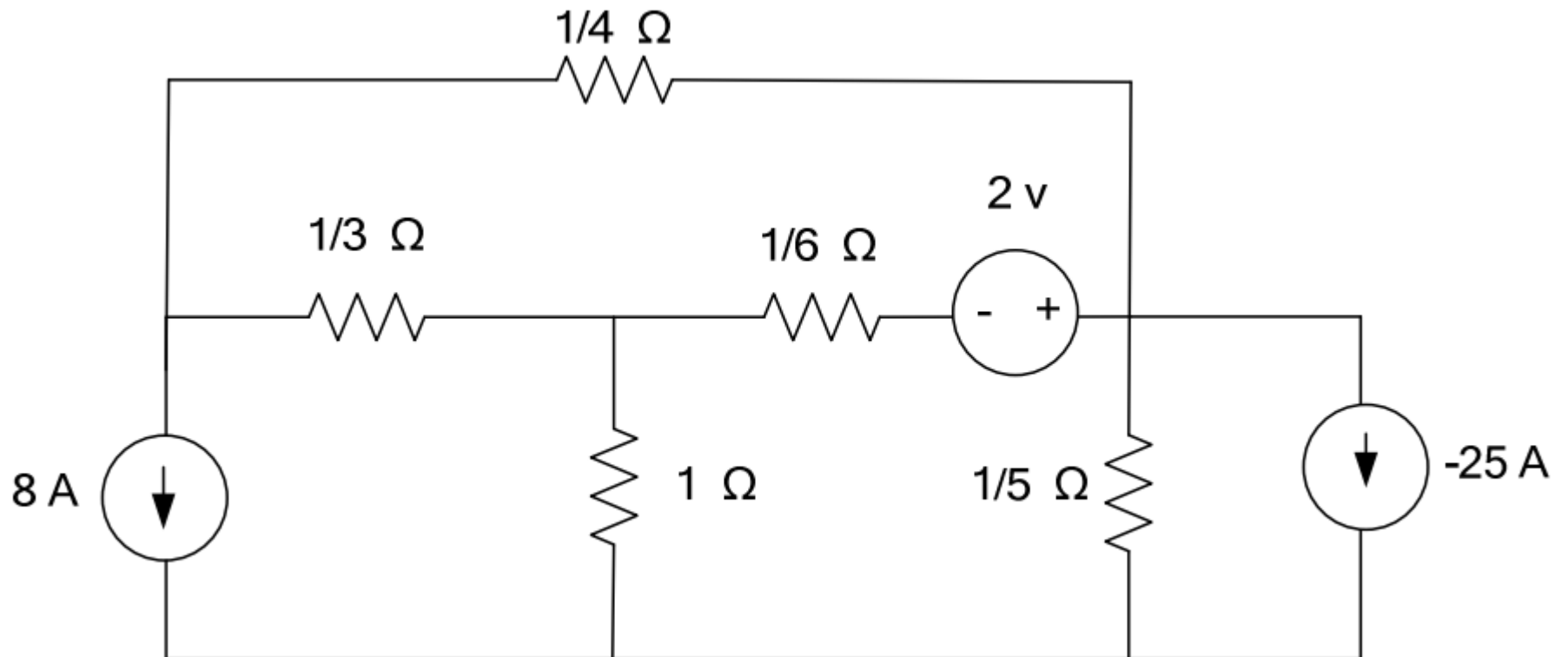
Assign voltages variable to all nodes except the reference node.
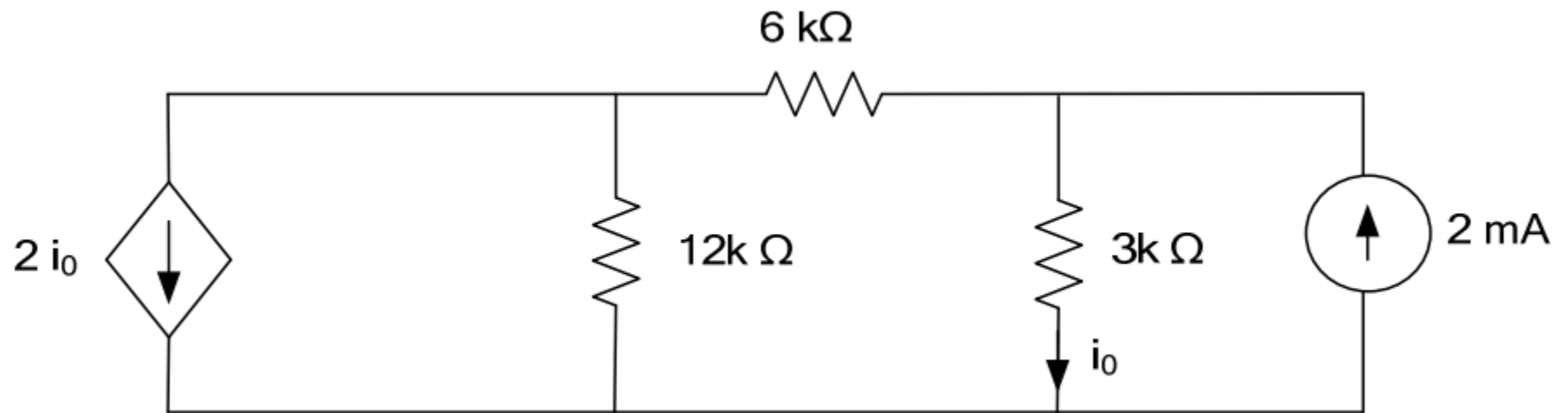
- ## Problem 3

Find i_0 by using the nodal analysis:
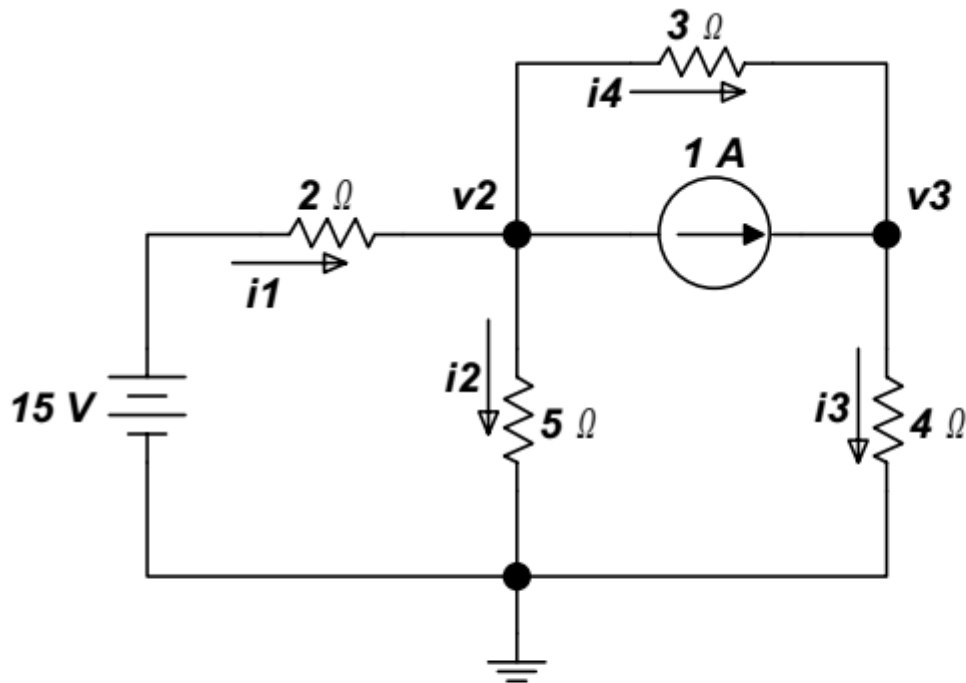
Find node voltages

- Problem 4

Problem on dependent source

- Problem 5

6 kΩ

$2 i_0$

12k Ω

3k Ω

i_0

2 mA

Find node voltages and currents

- Problem 6

Answer: $i1 = 3.31A, i2 = 1.68A, i3 = 1.63A, i4 = 0.627A, v2 = 8.39V, v3 = 6.51V$