Name:

ID :

PRINCIPLES OF EE1

Homework #1 - Group 03

Submission deadline: September 21, 2020.

IMPORTANT: You should hand in a copy of your report that contains a full and detailed description of all the work done on the homework. Marks will be deducted if there are sign of violation of regulation and late submission (20% for each day). *You should print out this document and write down your solution directly on it.*

Tip: You should draw a bounding box for your final answer. Ex: Y = ABC + AC = $\boxed{ABC}$

Problem 1: **(20 marks)** Apply Kirchoff's Laws to determine:

a/ i_a and i_b in Fig.1.1

b/ V_1, V_2 and V_3 in Fig.1.2

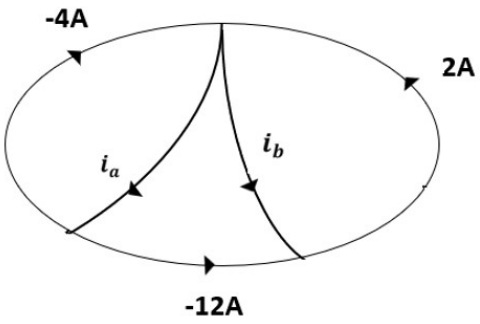

Figure 1.1

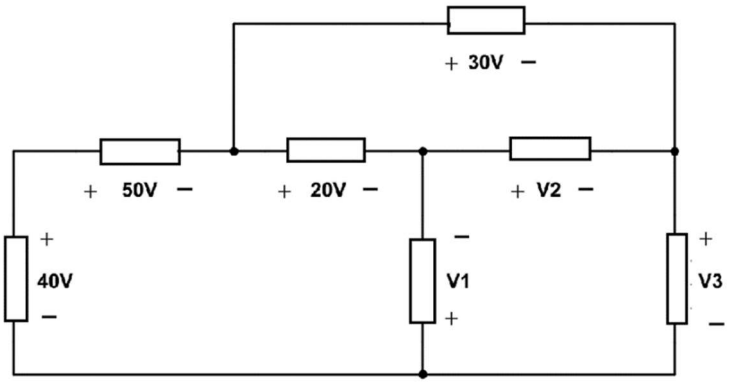

Figure 1.2

Ans

Problem 2: (45 marks)

Calculate the equivalent resistance R_{ab} in the circuits in Fig.2.1, Fig.2.2 and Fig.2.3.

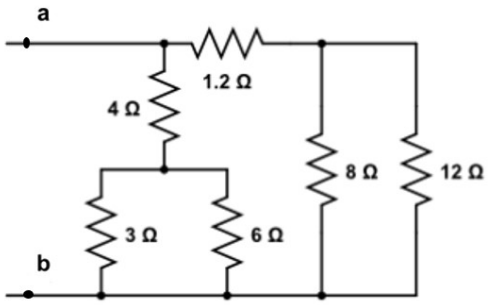

Figure 2.1

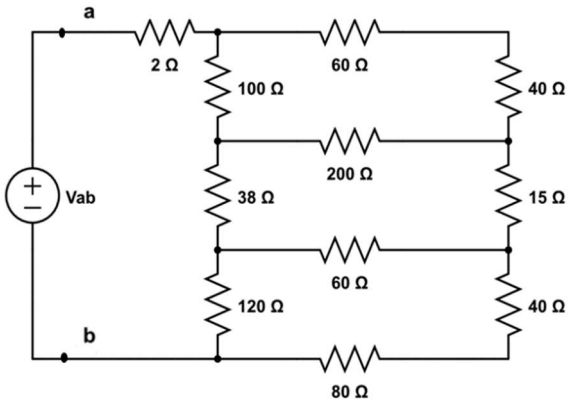

Figure 2.2

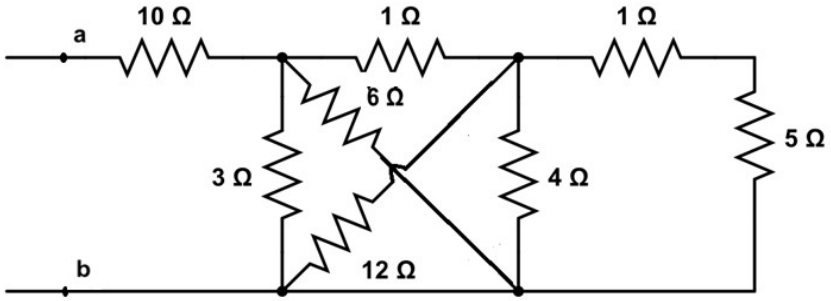

Figure 2.3

Ans

Problem 3: (35 marks)

The currents i_a and i_b in the circuit in Fig.3.1 are 4A and 2A, respectively.

a/ Find i_g.

b/ Determine the power dissipated in each resistor.

c/ Find v_g.

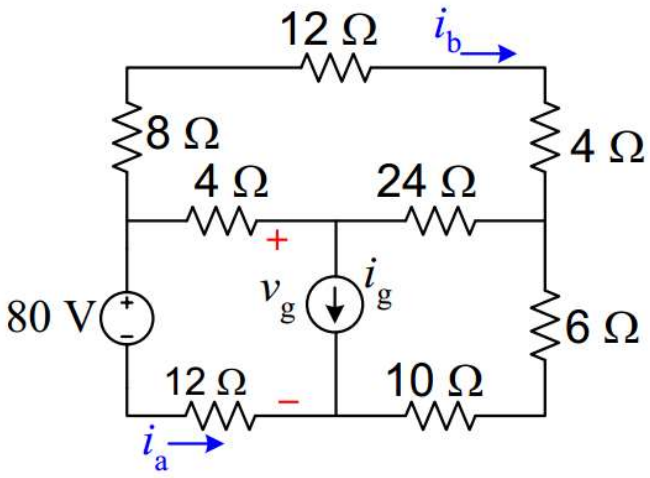

Figure 3.1

Ans