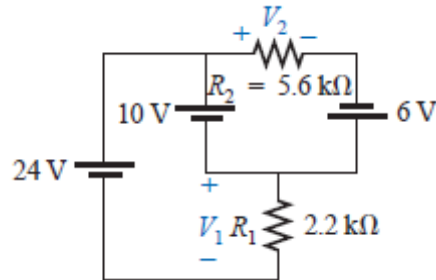




Academic Number:

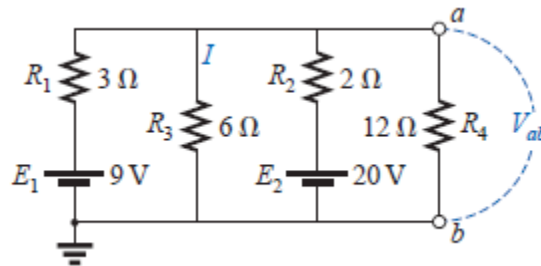
Question No. 1 [15 Marks]

A-) Determine the unknown voltages using Kirchhoff's voltage law. [6 Marks]



B-) Find the voltage V_{ab} and the polarity of points (a) and (b) in the following circuit. [6 Marks]

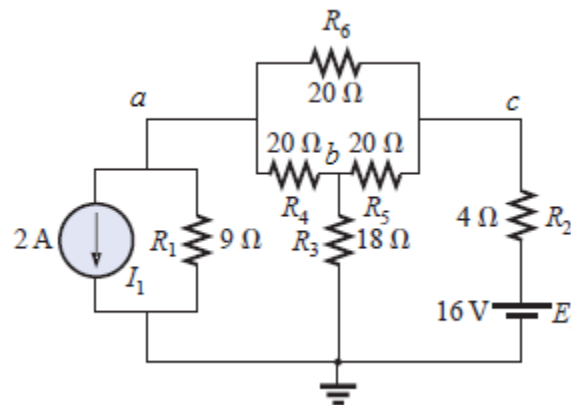
C-) Find the magnitude and direction of the current I in the 6Ω resistor. [3 Marks]



Question No. 2 [20 Marks]

A-) Write the nodal equations and solve for the nodal voltages (a, b, c) of the following circuit:

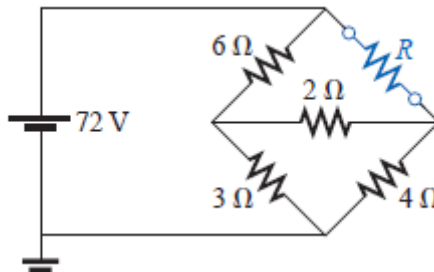
[7 Marks]



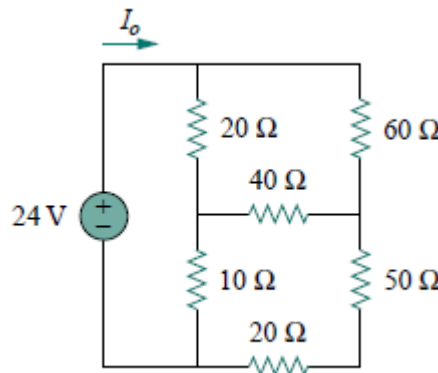


Academic Number:

B-) Find the Thévenin equivalent circuit for the network external to the resistor R in the following Circuit: [7 Marks]

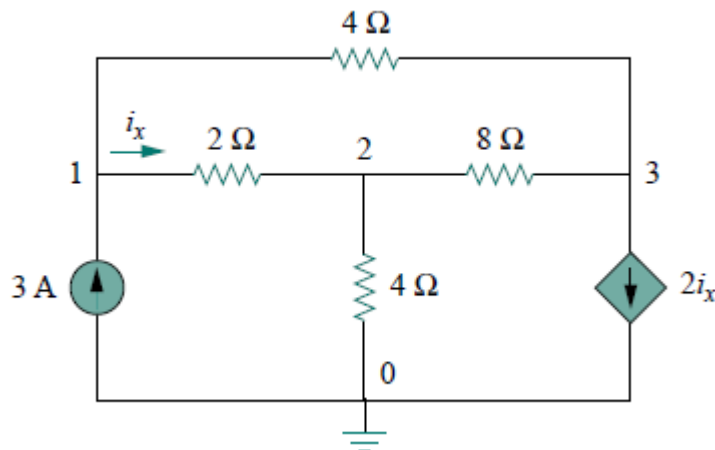


C-) Calculate I_o in the circuit of the following Fig.: [6 Marks]



Question No. 3 [10 Marks]

Determine the voltages at the nodes 1, 2, 3 in the following circuit: [10 Marks]



With my best wishes

Dr. Sherif Imam