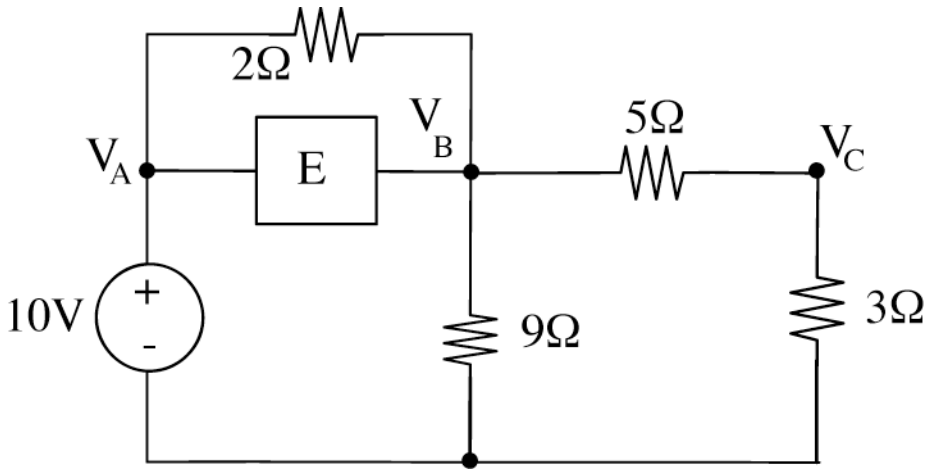
Name : _____ Section:_____ CWRU e-mail:_____

Quiz No. 4 2/11/05

PUT ANSWERS IN THE SPACE PROVIDED AND SHOW YOUR WORK IF APPROPRIATE
STATE ALL ASSUMPTIONS

NODE VOLTAGE ANALYSIS

1. (10 points) Write node voltage equations for V_A, V_B and V_C for the following circuit given that



(a) E is a 5 volt voltage source with the plus reference on the left.

NODE	Node Voltage Equations
A	_____ V_A + _____ V_B + _____ V_C = _____
B	_____ V_A + _____ V_B + _____ V_C = _____
C	_____ V_A + _____ V_B + _____ V_C = _____

(b) E is a 5 ampere current source with the reference arrow pointing left.

NODE	Node Voltage Equations
A	_____ V_A + _____ V_B + _____ V_C = _____
B	_____ V_A + _____ V_B + _____ V_C = _____
C	_____ V_A + _____ V_B + _____ V_C = _____

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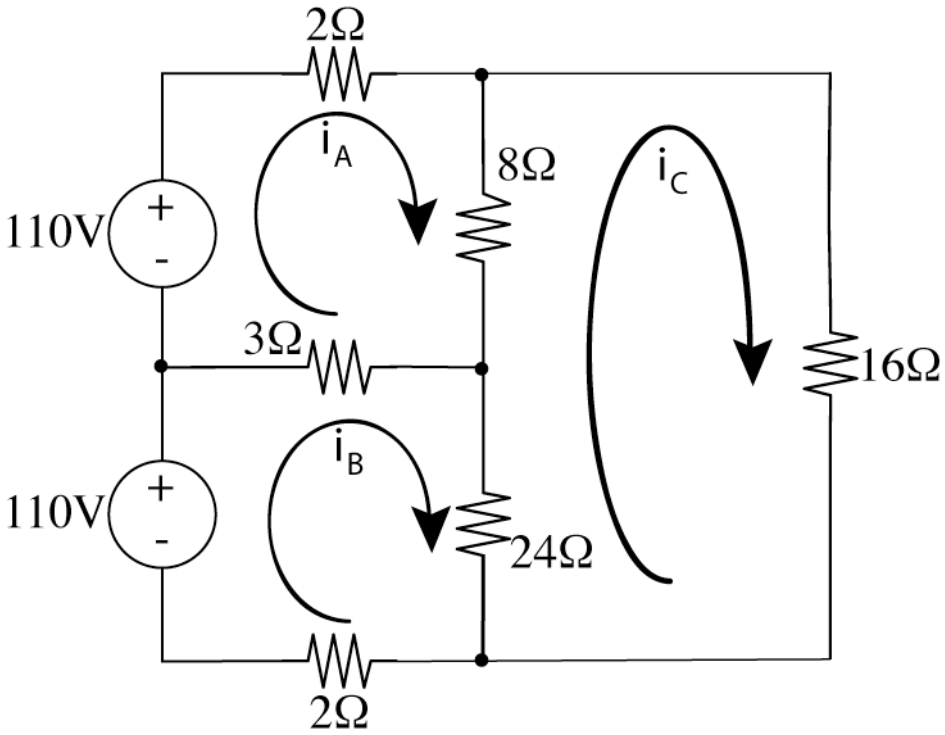
MESH CURRENT ANALYSIS

2. (10 points) The circuit shown below is a DC model of a residential power distribution circuit. Use the mesh current method to write equations for the indicated currents.



MESH	Mesh Current Equations
A	_____ i_A + _____ i_B + _____ i_C = _____
B	_____ i_A + _____ i_B + _____ i_C = _____
C	_____ i_A + _____ i_B + _____ i_C = _____