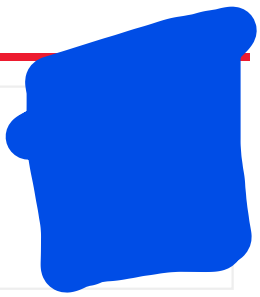


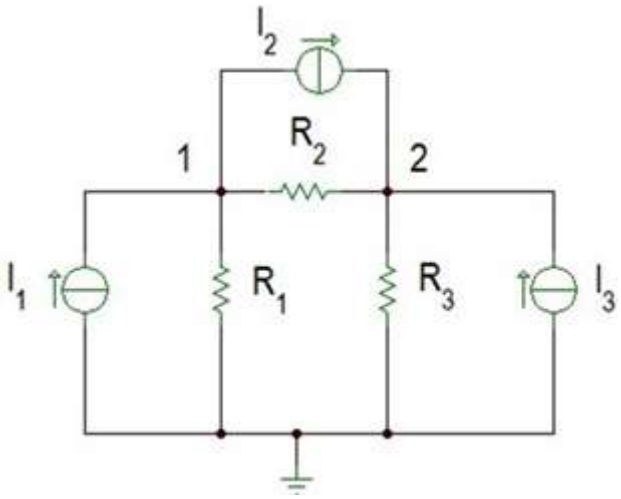
Started on	Friday, 5 February 2021, 7:05 PM
State	Finished
Completed on	Friday, 5 February 2021, 7:29 PM
Time taken	24 mins 17 secs
Grade	**5.00** out of 5.00 (**100**%)

Question 1

Correct

Mark 3.00 out of 3.00

In the following circuit, determine the node voltages V1 and V2 (in Volts). Given I_1=6 mA, I_2=9 mA, I_3=8 mA, R_1=5 kΩ, R_2=6 kΩ, R_3=5 kΩ



Select one:

- V1 is 16.25 and V2 is 53.75 ✓
- V1 is 50.00 and V2 is 20.00
- V1 is 50.00 and V2 is 53.75
- V1 is 16.25 and V2 is 20.00

Your answer is correct.

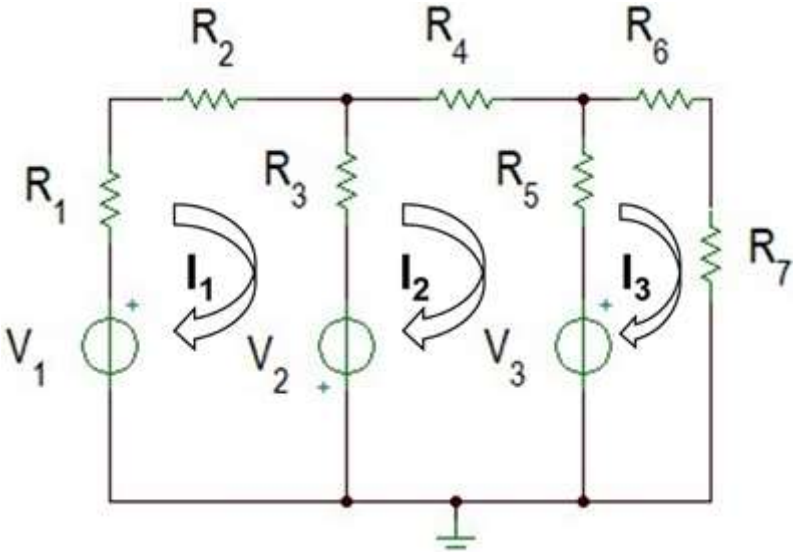
The correct answer is: V1 is 16.25 and V2 is 53.75

Question 2

Correct

Mark 2.00 out of 2.00

In the following circuit, the mesh currents are I_1 A, I_2 A and I_3 A. Given V_1 =7 V, V_2 =5 V, V_3 =5.6 V, R1=10 Ω, R2=8 Ω, R3=6 Ω, R4=8 Ω, R5=10 Ω, R6=9 Ω and R7=7 Ω,



The mesh equations can be represented as following:

$$\begin{bmatrix} a11 & a12 & a13 \\ a21 & a22 & a23 \\ a31 & a32 & a33 \end{bmatrix} \begin{bmatrix} I_1 \\ I_2 \\ I_3 \end{bmatrix} = \begin{bmatrix} V_a \\ V_b \\ V_c \end{bmatrix}$$

Which of the option below correctly lists ***a11, a22*** and ***a33***, respectively.

Select one:

- a11 is 24.00 a22 is 24.00 and a33 is 12.00
- a11 is 12.00 a22 is 24.00 and a33 is 26.00
- a11 is 24.00 a22 is 4.00 and a33 is 26.00
- a11 is 24.00 a22 is 24.00 and a33 is 26.00 ✓

Your answer is correct.

The correct answer is: a11 is 24.00 a22 is 24.00 and a33 is 26.00