

ECE 211 Test #1

Summer - 2026. Calculators, Matlab, & Bison Academy allowed

Chegg, ChatGPT, AI not allowed.

Individual Effort (i.e. giving or receiving help from others not allowed)

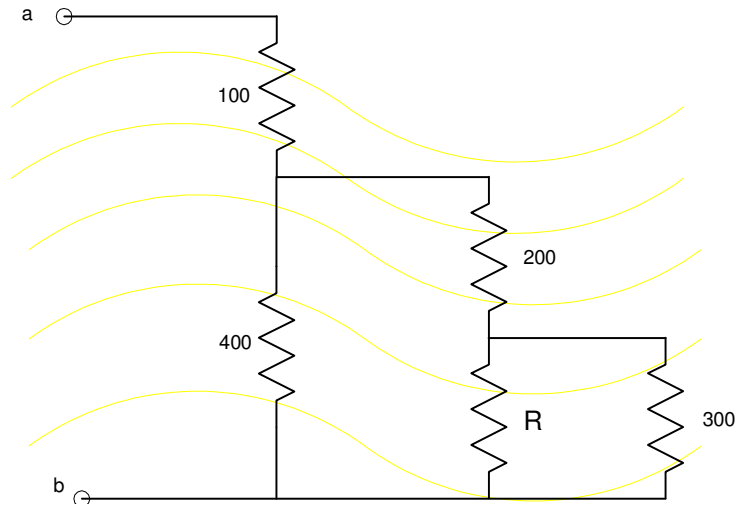
Resistors in Series and Parallel

Let R be your birthday

- Example: May 14th results in $R = 1414$ Ohms

Find the resistance R_{ab} . Please show your work to get full credit.

R $900 + 100 * (\text{birth month}) + (\text{birth date})$
R_{ab}



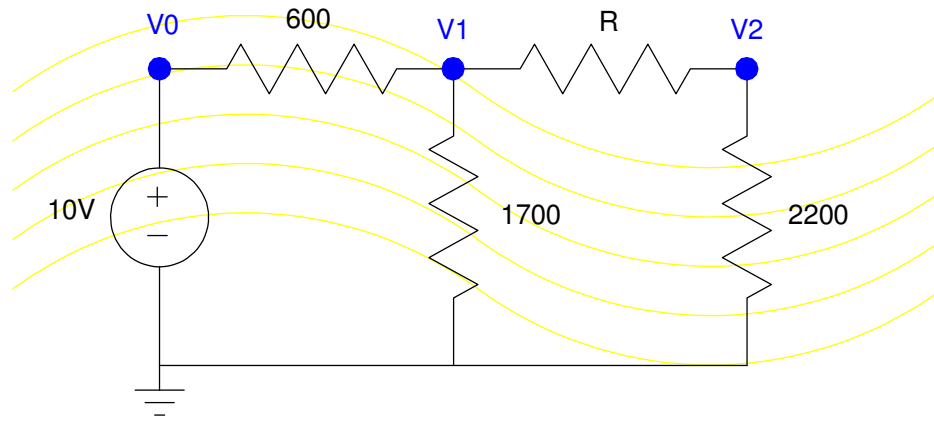
Voltage Division

Let R be determined by your birthdate

- $R = 900 + 100 * (\text{month}) + (\text{day})$
- May 14th gives $R = 1414$ Ohms

Use voltage division to find the voltages $\{V1 \text{ and } V2\}$

- Please show your work to get full credit



R $900 + 100 * (\text{month}) + (\text{day})$	$V1$	$V2$

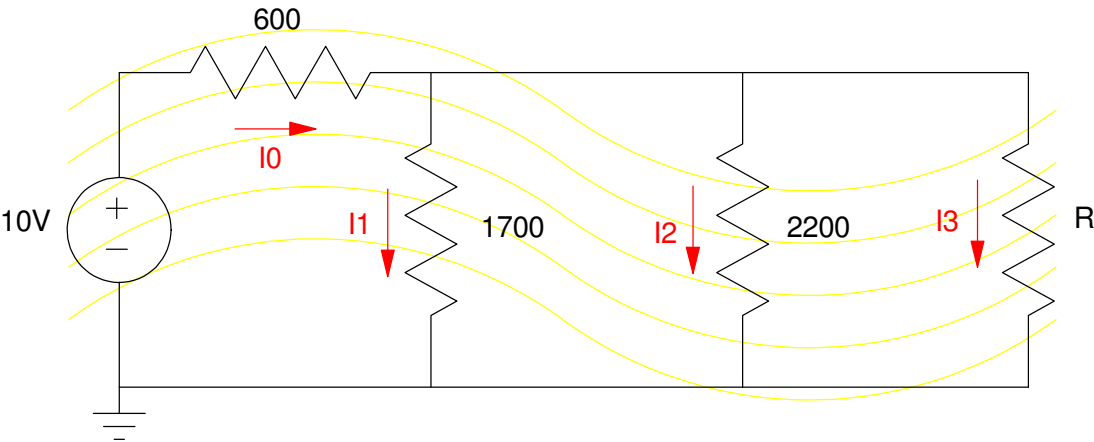
Current Division

Let R be determined by your birthdate

- $R = 900 + 100 * (\text{month}) + (\text{day})$
- May 14th gives $R = 1414 \text{ Ohms}$

Use current division to find the currents $\{I_0, I_1, \text{ and } I_2\}$

- Please show your work to get full credit

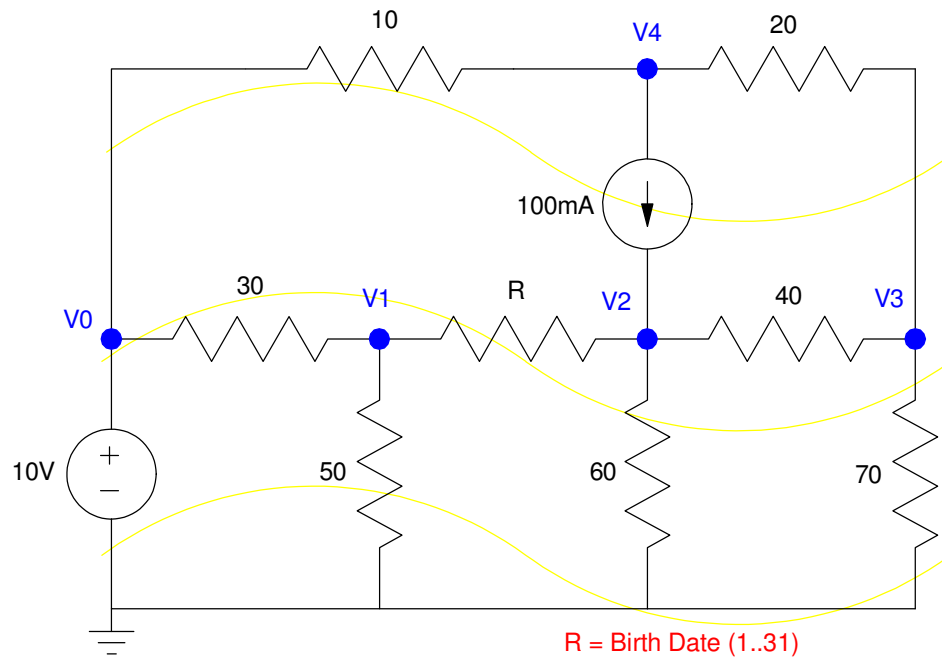


R 900 + 100*(mo) + (day)	I0	I1	I2	I3

Voltage Nodes

Let R be your birth date (1..31). Write voltage node equations that would allow you to solve for five unknowns

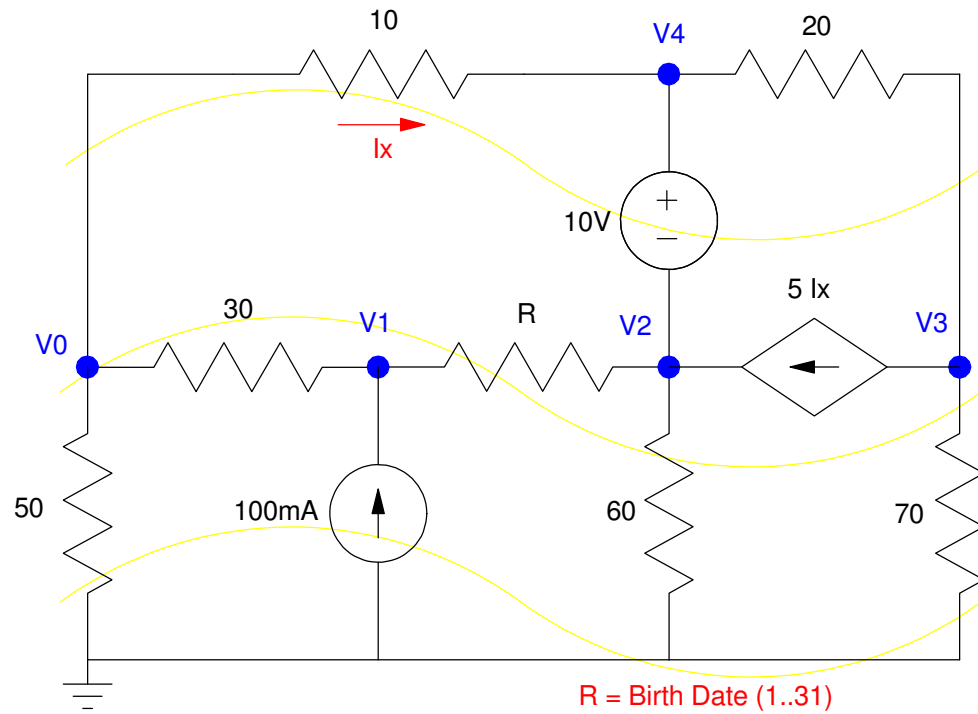
- $\{V_0, V_1, V_2, V_3, V_4\}$
- You don't need to solve (just write five equations for five unknowns)



Super Nodes

Let R be your birth date (1..31). Write voltage node equations that would allow you to solve for six unknowns

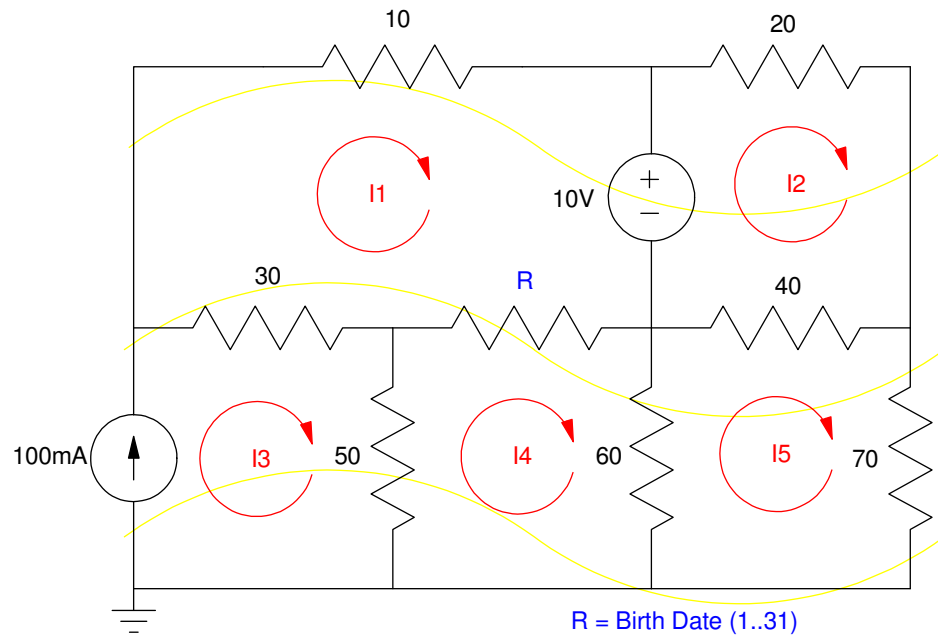
- $\{V_0, V_1, V_2, V_3, V_4, I_x\}$
- You don't need to solve (just write five equations for five unknowns)



Current Loops

Let R be your birth date (1..31). Write current loop equations that would allow you to solve for five unknowns

- $\{I_1, I_2, I_3, I_4, I_5\}$
- You don't need to solve (just write five equations for five unknowns)



Super Loops

Let R be your birth date (1..31). Write current loop equations that would allow you to solve for six unknowns

- $\{I_1, I_2, I_3, I_4, I_5, I_x\}$
- You don't need to solve (just write five equations for five unknowns)

