

# ECE 111 - Homework #5

Week #5: EE 206 Circuits I - Due Tuesday, February 14th

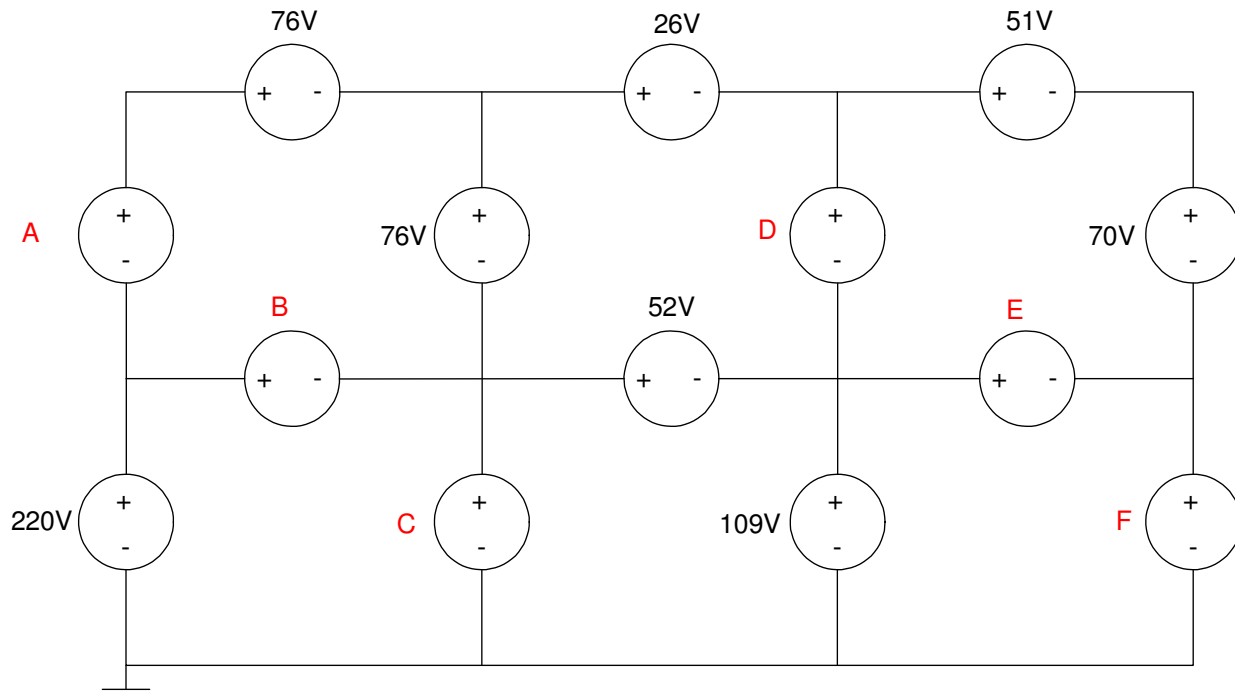
Please submit as a hard copy or submit on BlackBoard

1) A resistor has the following volts / amps / resistance / power. Determine the missing parameters:

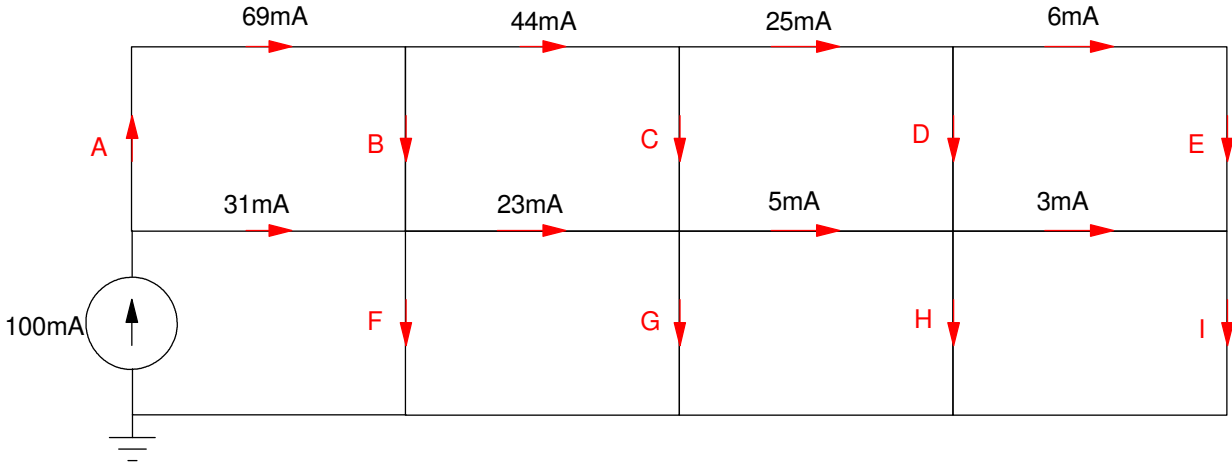
Volts	Amps	Ohms	Watts
40V	2.6A		
40V		8	
	3.7A		200W
40V			120W

## Kirchoff's Laws:

2) Use conservation of voltage to determine the unknown voltages



3) Use conservation of current to determine the unknown currents



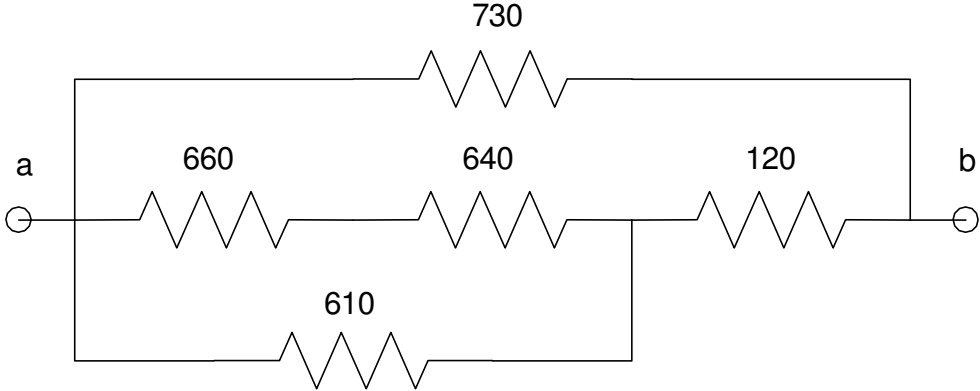
Problem #3

**Resistors in Series and Parallel**

4) Find the total resistance Rab by hand

5) Find the total resistance Rab using CircuitLab

- Apply a 10V source to a and b.
- Determine the current draw from the 10V source
- Calculate the net resistance from  $V = IR$

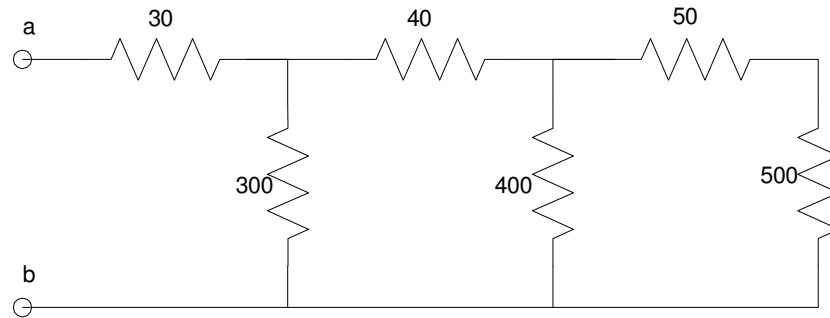


Problem #4 & 5

6) Find the total resistance  $R_{ab}$  by hand

7) Find the total resistance,  $R_{ab}$ , using CircuitLab

- Apply a 10V source to a and b.
- Determine the current draw from the 10V source
- Calculate the net resistance from  $V = IR$

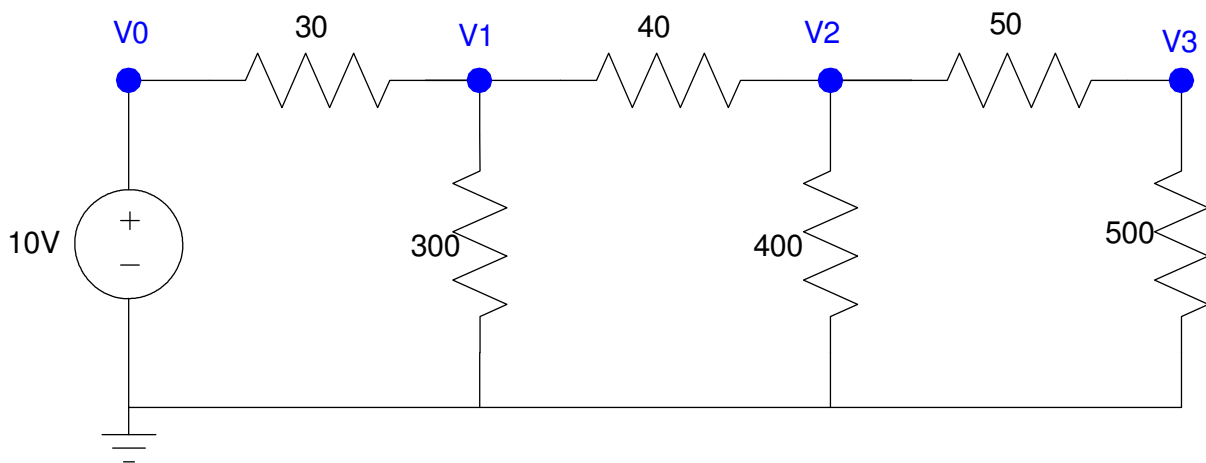


Problem #6 & 7

### Voltage Division

8) Use voltage division to find  $V_1$ ,  $V_2$ , and  $V_3$ .

9) Use CircuitLab to find  $V_1$ ,  $V_2$ ,  $V_3$ .



Problem 6 & 7