

ECE 111 - Make-Up Homework #8

ECE 211 Circuits I - Due Friday, December 12th

$$V = IR, P = VI$$

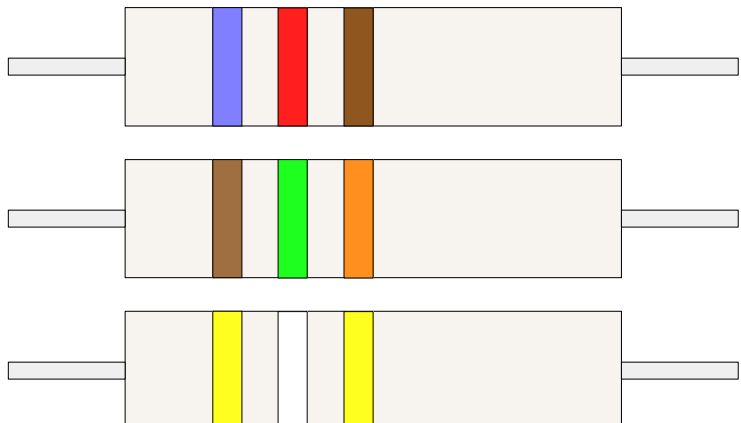
1) A resistor has the following volts / amps / resistance / power. Determine the missing parameters:

Volts (V)	Amps (I)	Ohms (R)	Watts (W)
10V		2 Ohms	
	1.5A	2 Ohms	
10.0V	1.5A		
		5 Ohms	40W

Resistor Color Codes

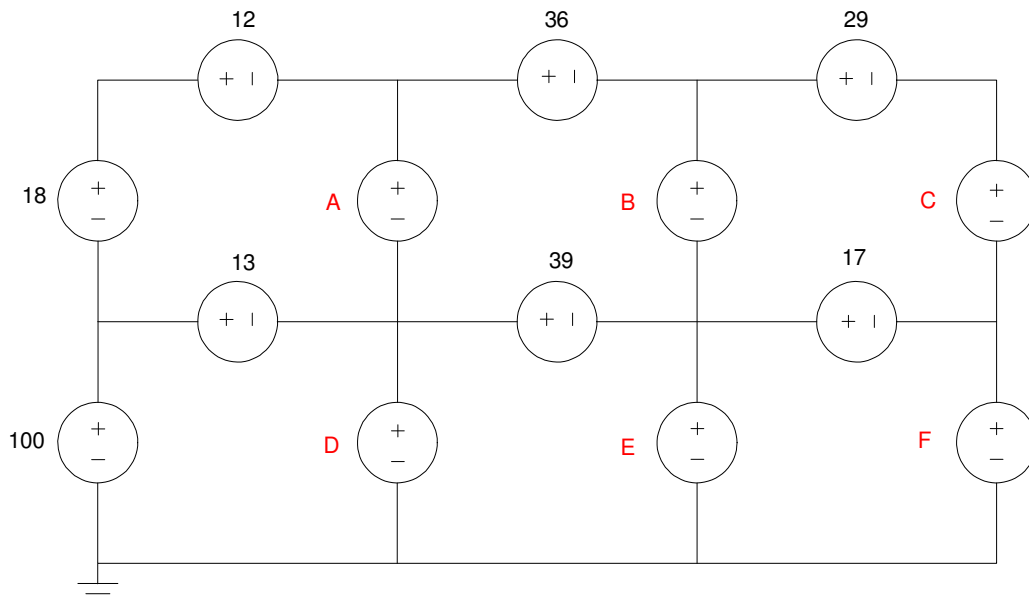
2) Determine the value of the following resistors

- a) Blue - Red - Brown
- b) Brown - Green - Orange
- c) Yellow - White - Yellow

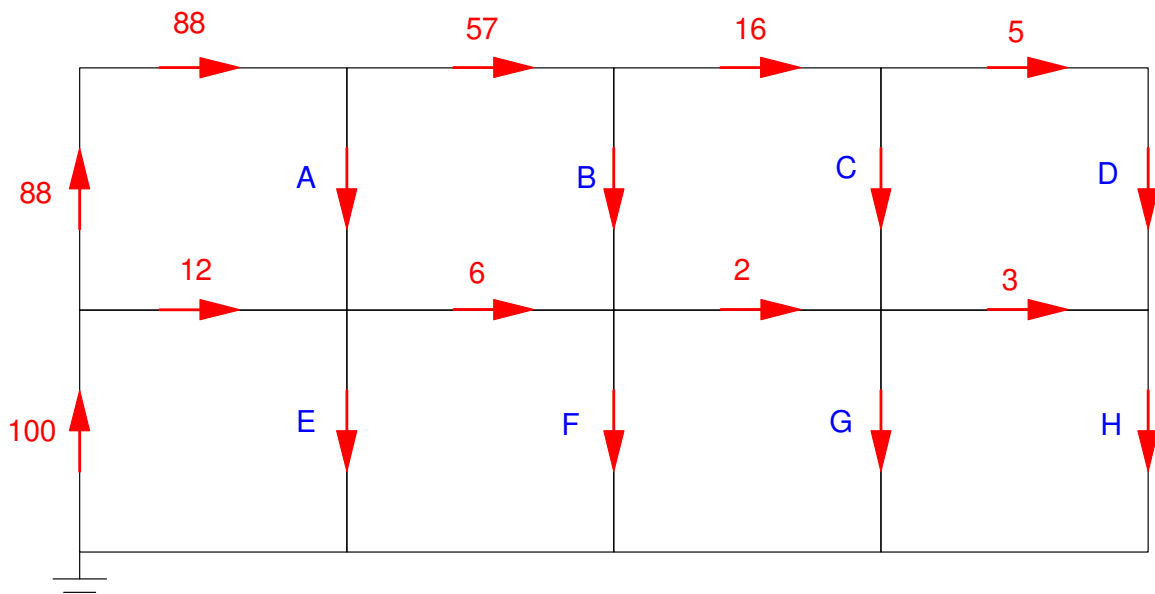


Kirchoff's Laws:

3) Use conservation of voltage to determine the unknown voltages



4) Use conservation of current to determine the unknown currents

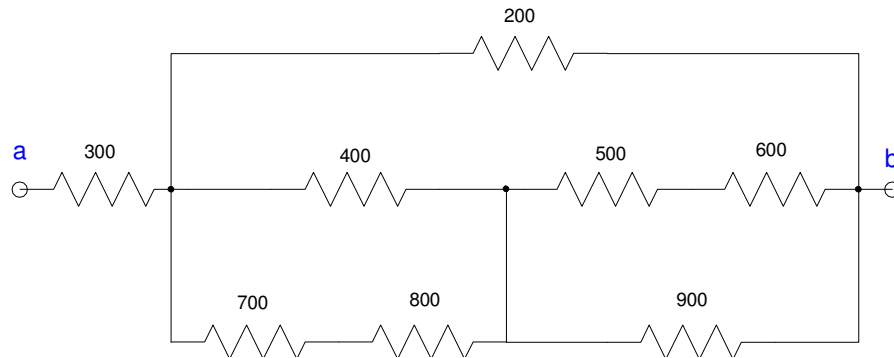


Resistors in Series and Parallel

5) Compute the total resistance R_{ab} by hand (i.e. using Matlab or a calculator)

6) Find the total resistance R_{ab} using CircuitLab

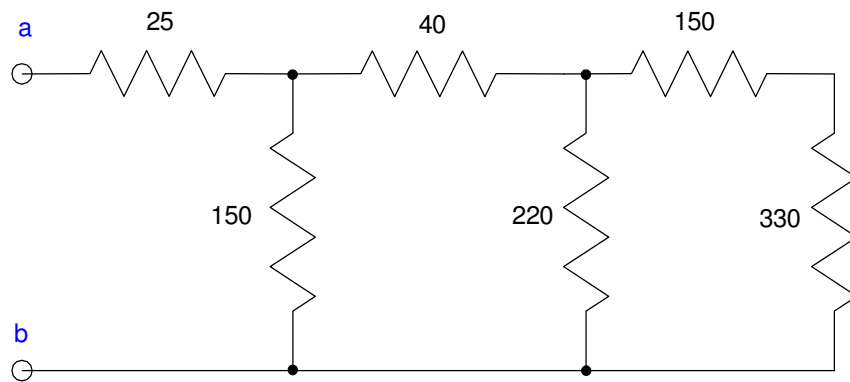
- Apply a 10V source to a and b.
- Determine the current draw from the 10V source
- Calculate the net resistance from $V = IR$



7) Compute the total resistance R_{ab} by hand (i.e. using Matlab or a calculator)

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

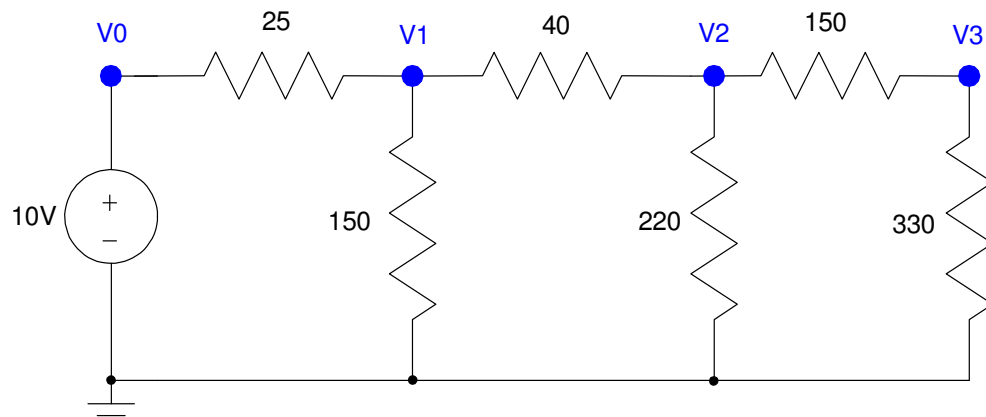
- Apply a 10V source to a and b.
- Determine the current draw from the 10V source
- Calculate the net resistance from $V = IR$



Voltage Division

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

10) Use CircuitLab to find V_1 , V_2 , V_3 .



Problem 9 & 10