

ECE 111 - Homework #8

EE 206 Circuits I
Due Monday, October 16th

$$V = IR, P = VI$$

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

Volts	Amps	Ohms	Watts
24V	1.6A		
24V		8	
	2.2A		150W
24V			96W

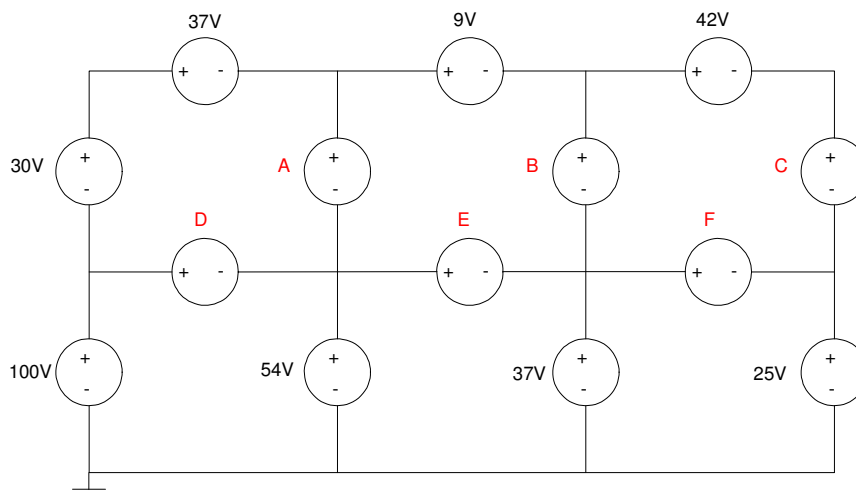
Resistor Color Codes

2) Determine the value of the following resistors

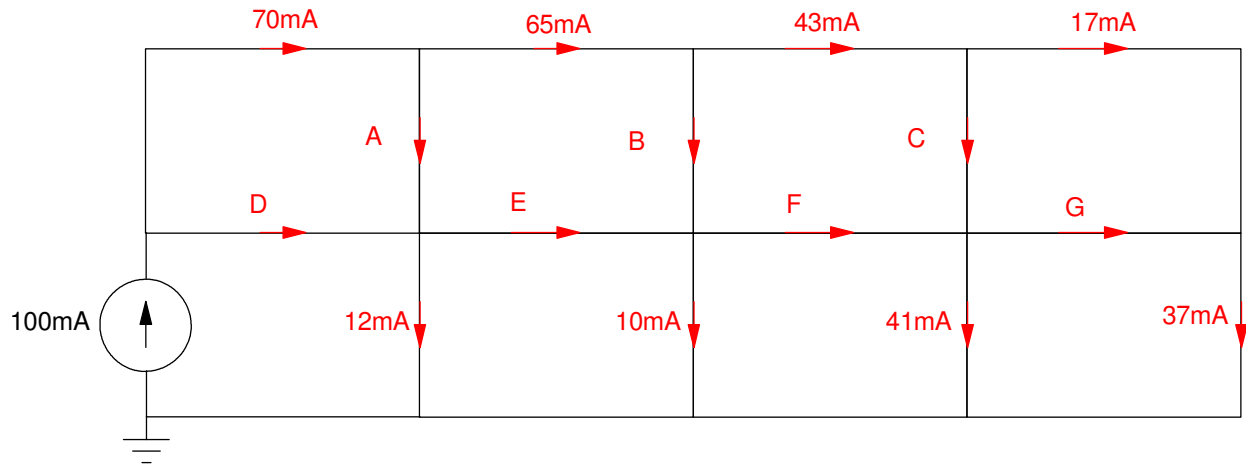
- a) Brown - Black - Red
- b) Yellow - Violet - Orange
- c) White - Brown - Yellow

Kirchoff's Laws:

3) Use conservation of voltage to determine the unknown voltages



4) Use conservation of current to determine the unknown currents

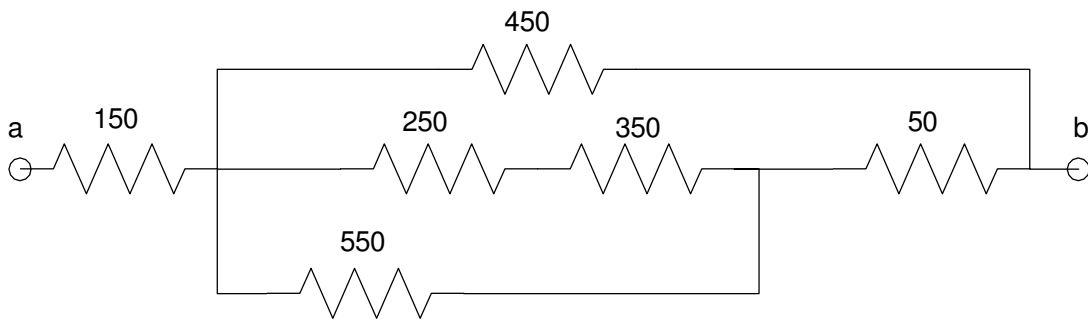


Resistors in Series and Parallel

5) Find the total resistance R_{ab} by hand

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 $V = IR$

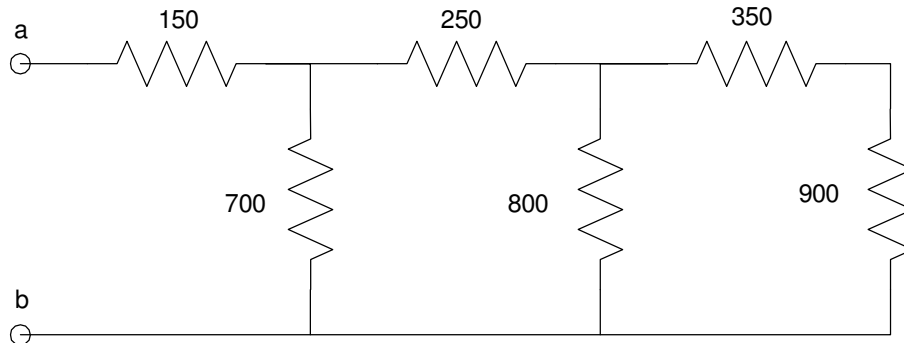


Problem #4 & 5

7) Find the total resistance R_{ab} by hand

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 $V = IR$

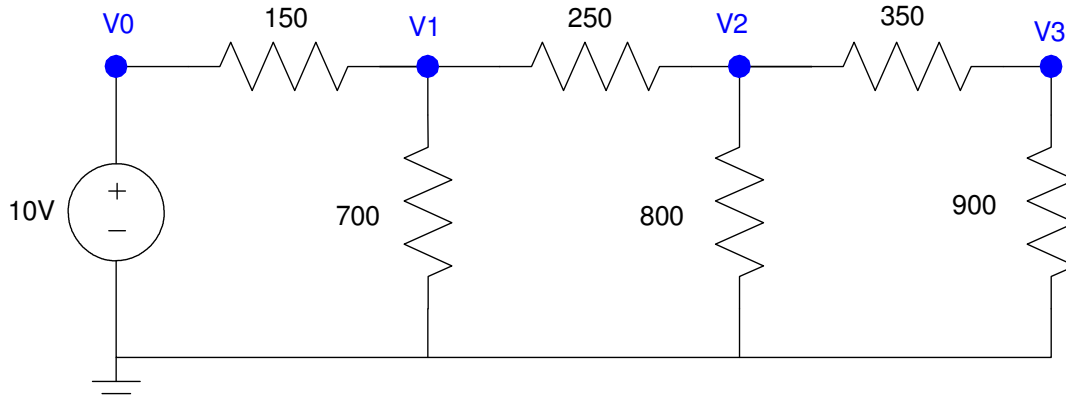


Problem 7 & 8

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