ECE 111 - Make-Up Homework #8

EE 206 Circuits I

V = IR, P = VI
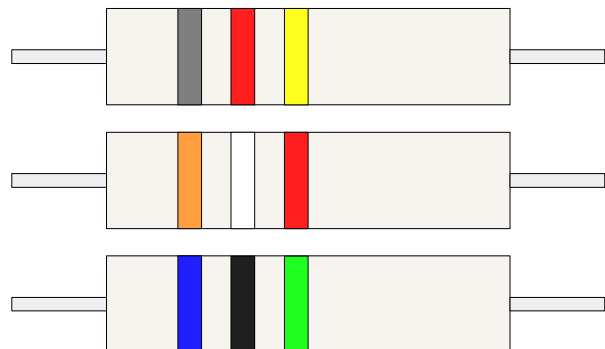
1) A resistor has the following volts / amps / resistance / power. Determine the missing parameters:

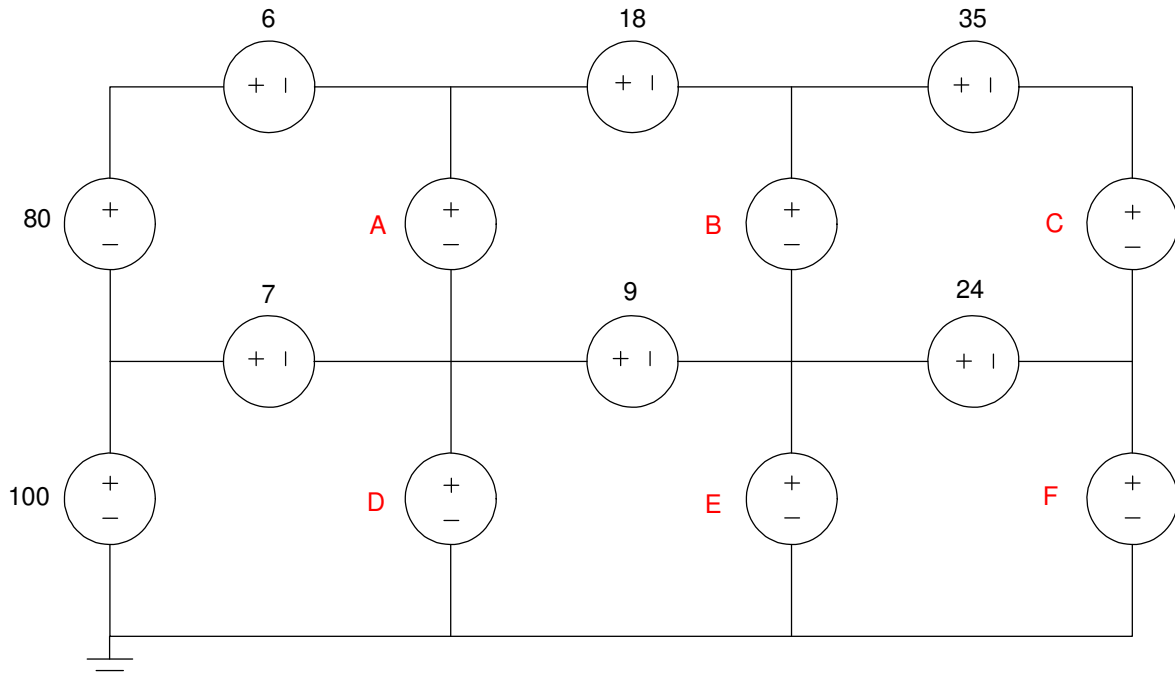| Volts	Amps	Ohms	Watts
15V	3.0A		
15V		8	
	6.0A		120W
15V			60W

Resistor Color Codes

2) Determine the value of the following resistors

- a) Grey - Red - Yellow
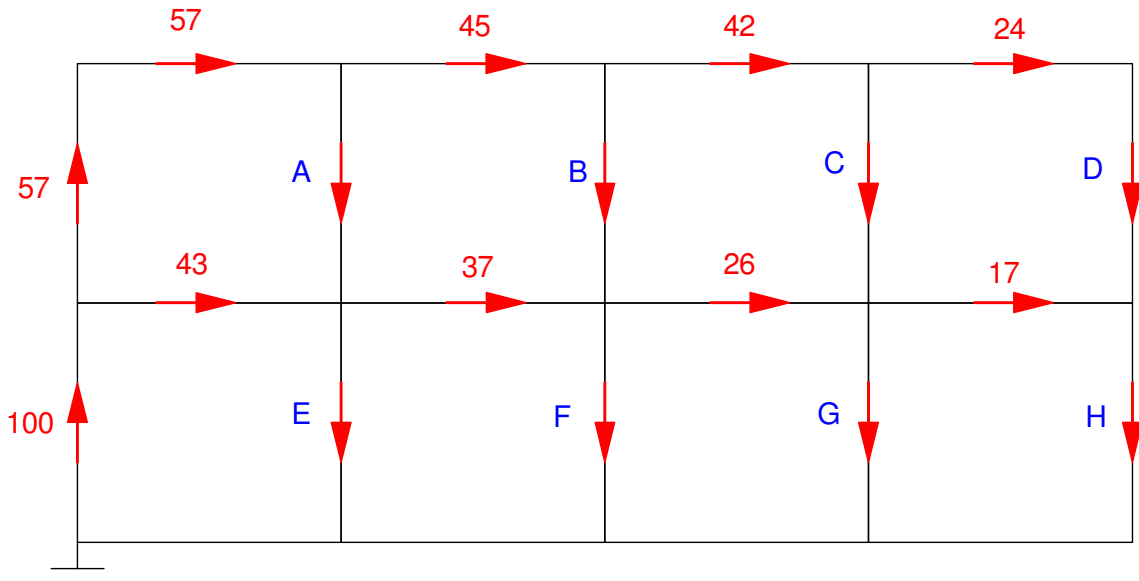- b) Orange - White - Red
- c) Blue- Black - Green

Kirchoff's Laws:

3) Use conservation of voltage to determine the unknown voltages

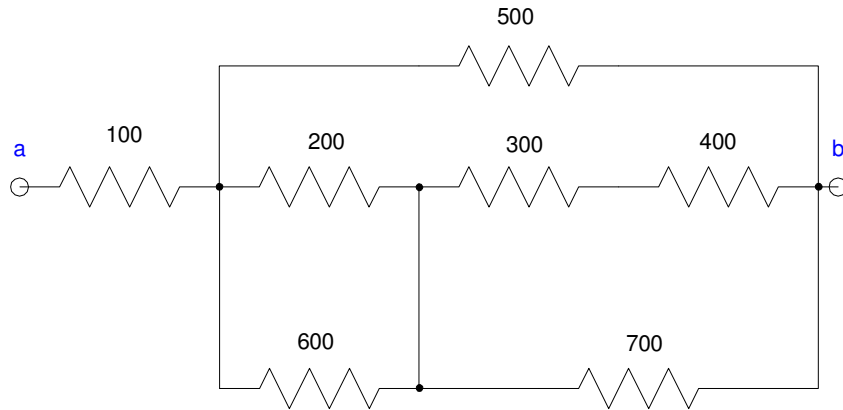4) Use conservation of current to determine the unknown currents

Resistors in Series and Parallel

5) Compute the total resistance Rab by hand (i.e. using Matlab or a calculator)

6) 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

500

100

a

200

300

400

b

600

700

Problem 5 & 6

7) Compute the total resistance Rab by hand (i.e. using Matlab or a calculator)

8) Find the total resistance, Rab, using CircuitLab
- Apply a 10V source to a and b.
- Determine the current draw from the 10V source
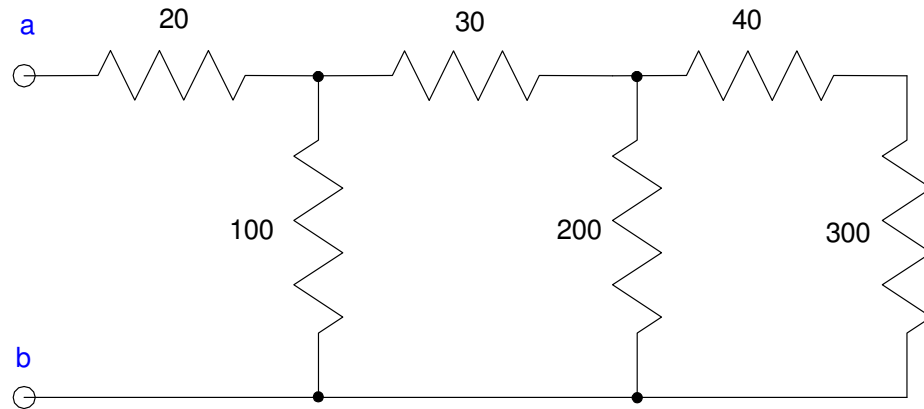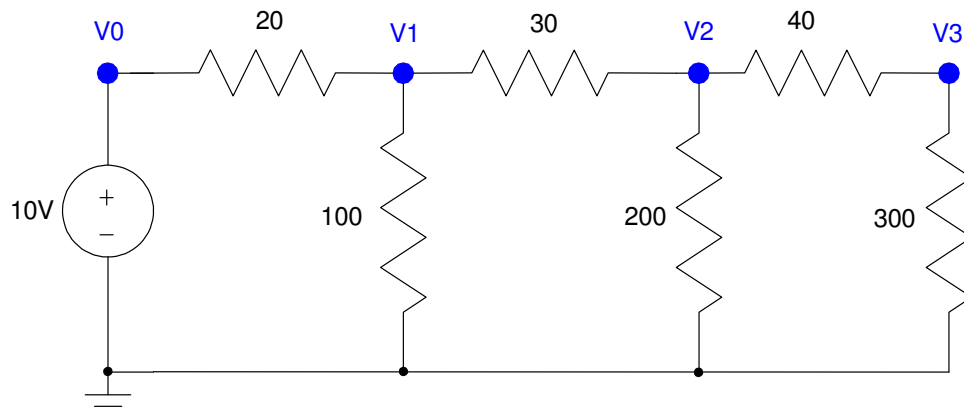- Calculate the net resistance from V = IR

a

20

30

40

100

200

300

b

Problem 7 & 8

Voltage Division

9) Use voltage division to find V1, V2, and V3.

10) Use CircuitLab to find V1, V2, V3.

Problem 9 & 10