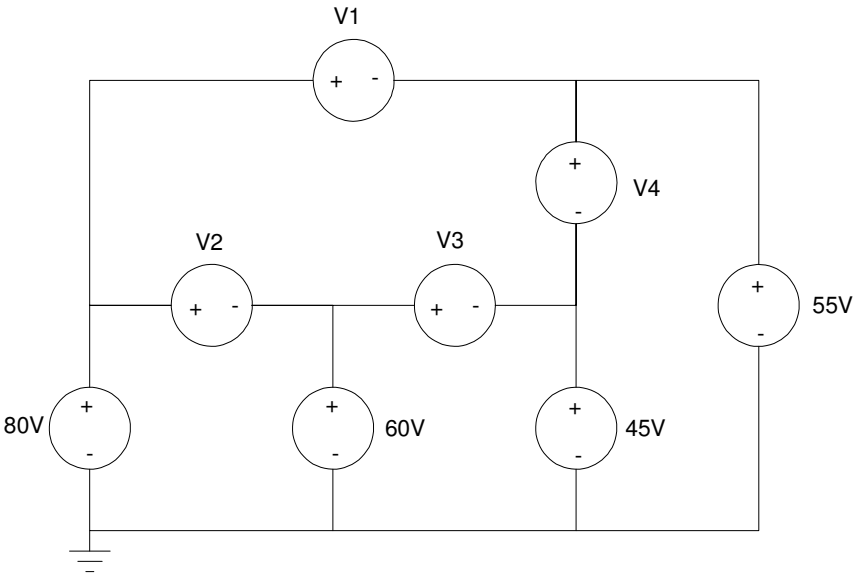
EE 206 Test #1 - Name _____

February 19, 2020

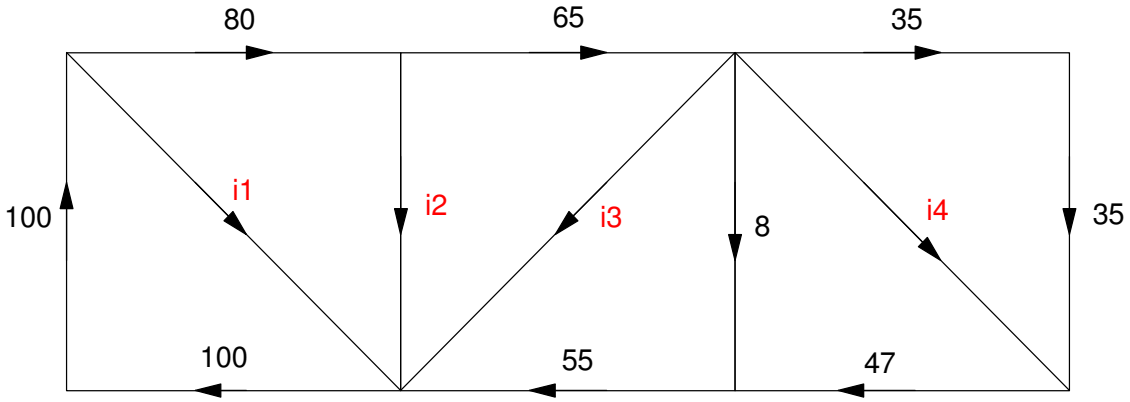
1) Kirchoff's Laws. Determine the unknown votlages

V1	V2	V3	V4



Determine the unknown currents

I1	I2	I3	I4



2) Determine the resitance Rab

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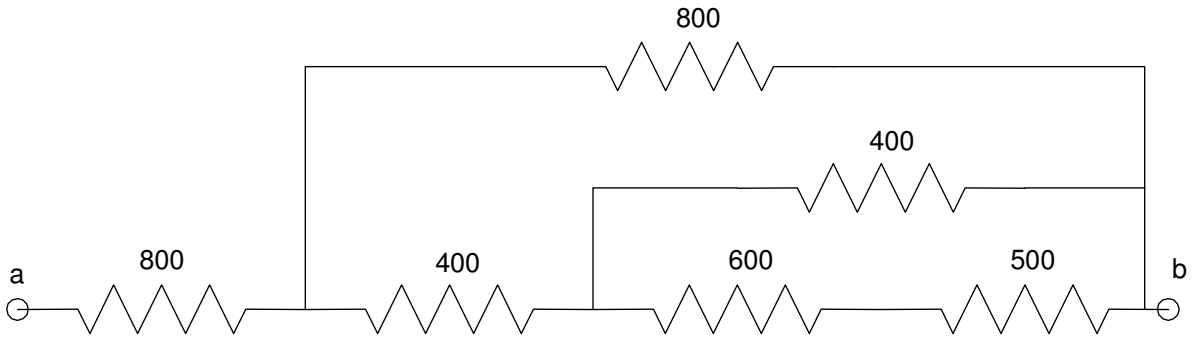
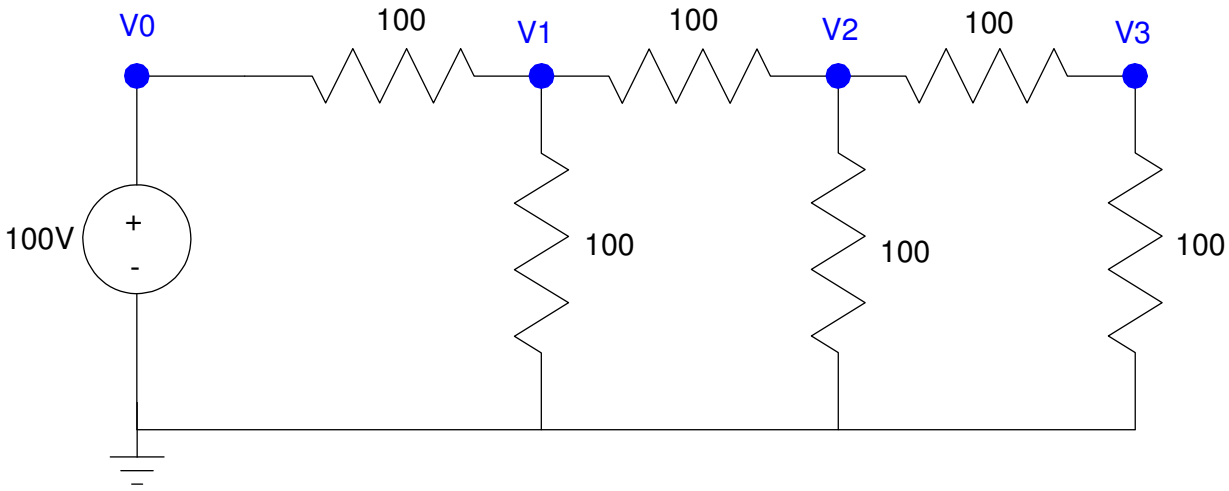


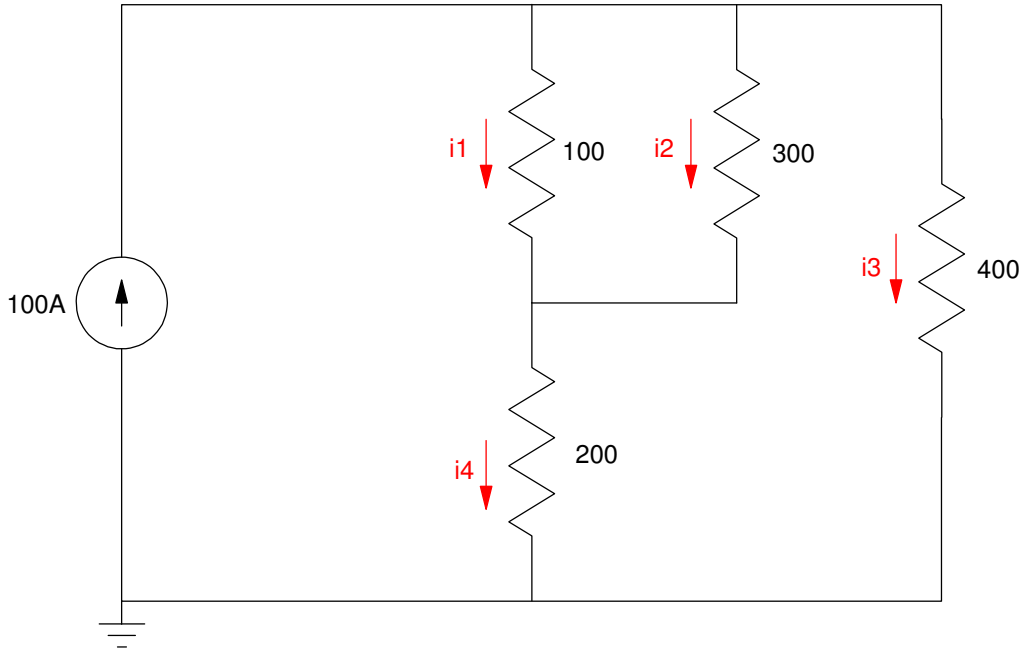
3) Voltage Division. Use voltage division to determine the voltages V1 .. V3

V0	V1	V2	V3

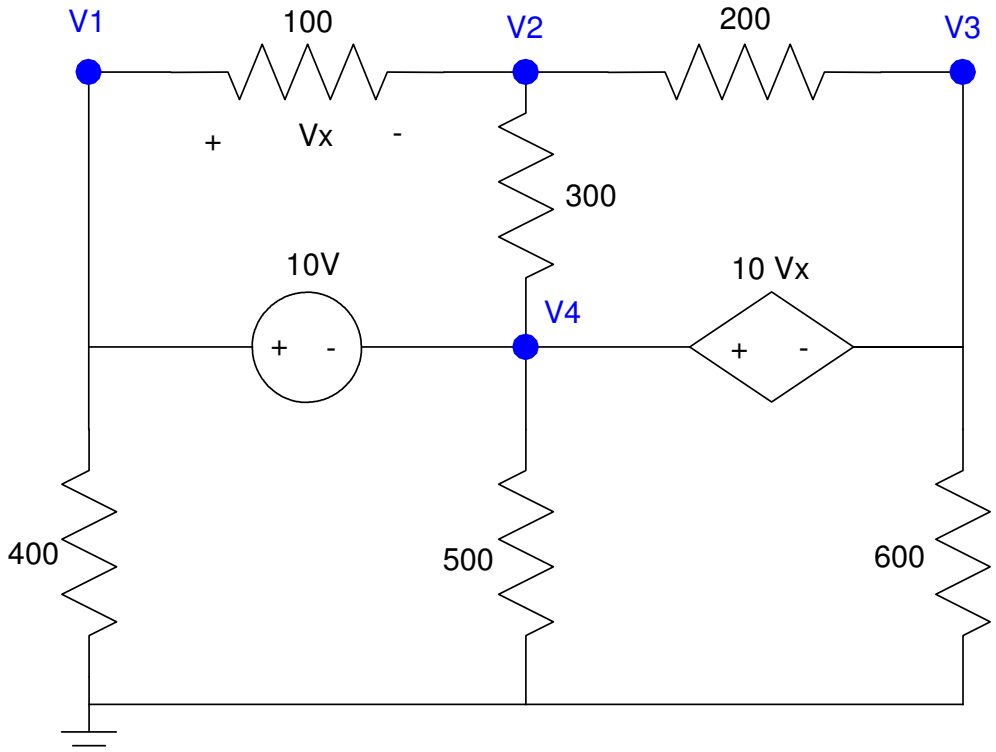


4) Current Division. Determine the currents I1 .. I4

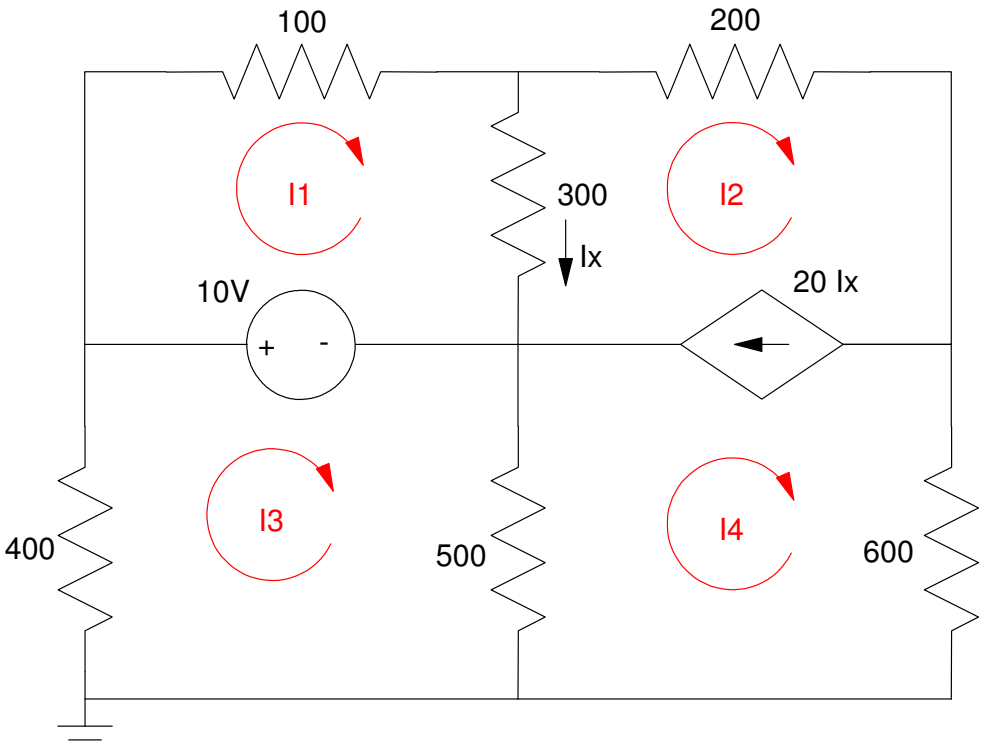
I1	I2	I3	I4



5) Voltage Nodes: Write 5 equatiosn to solve for the 5 unknwns.

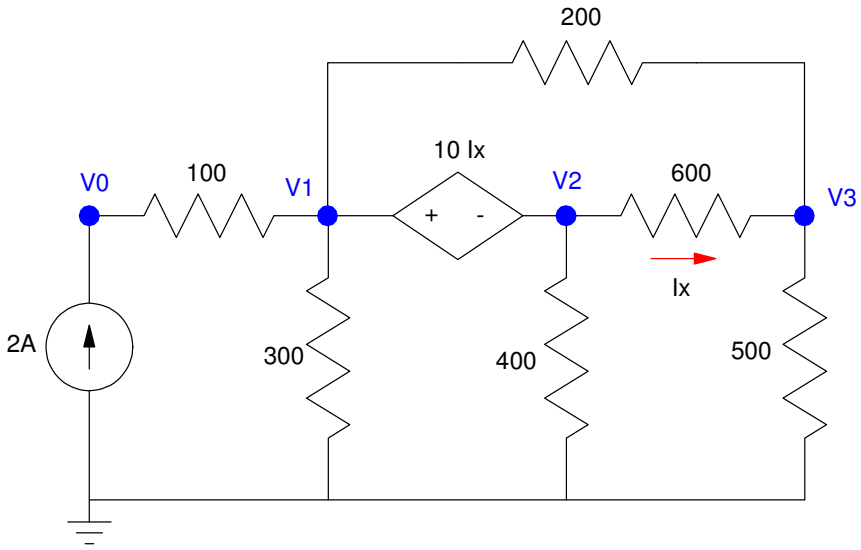


6) Current Loops. Write 5 equations to solve for 5 unknowns

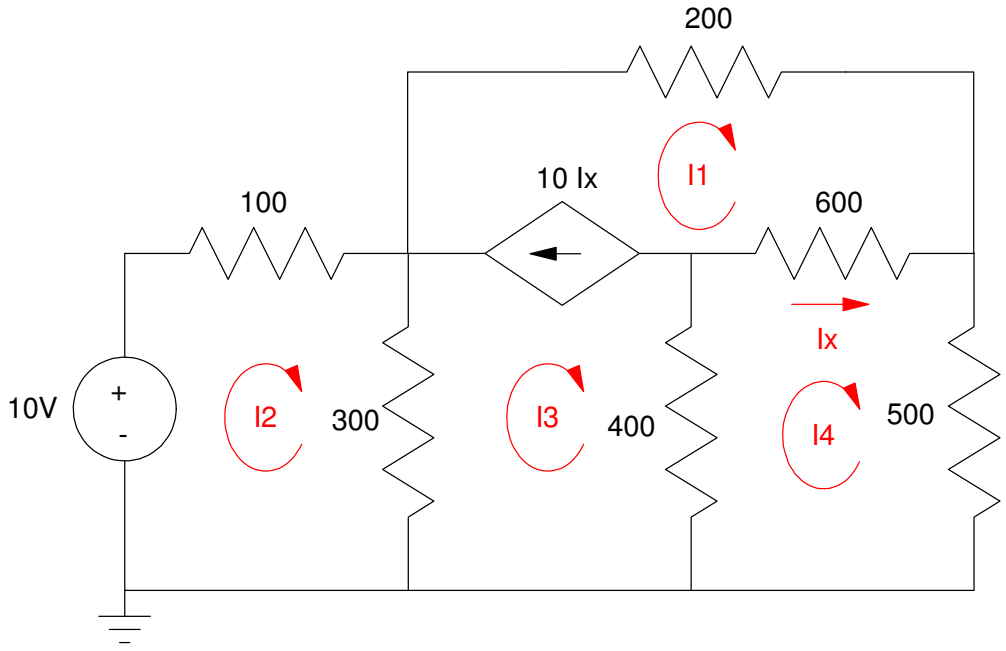


Green New Deal Bonus! Project Tundra is a $75 million project to capture the CO2 emissions from a coal plant and store it underground. How much CO2 does a 100MW coal plant produce in one year? (in cubic meters)

2) Write N equations to allow you to solve for the N unknown votlages

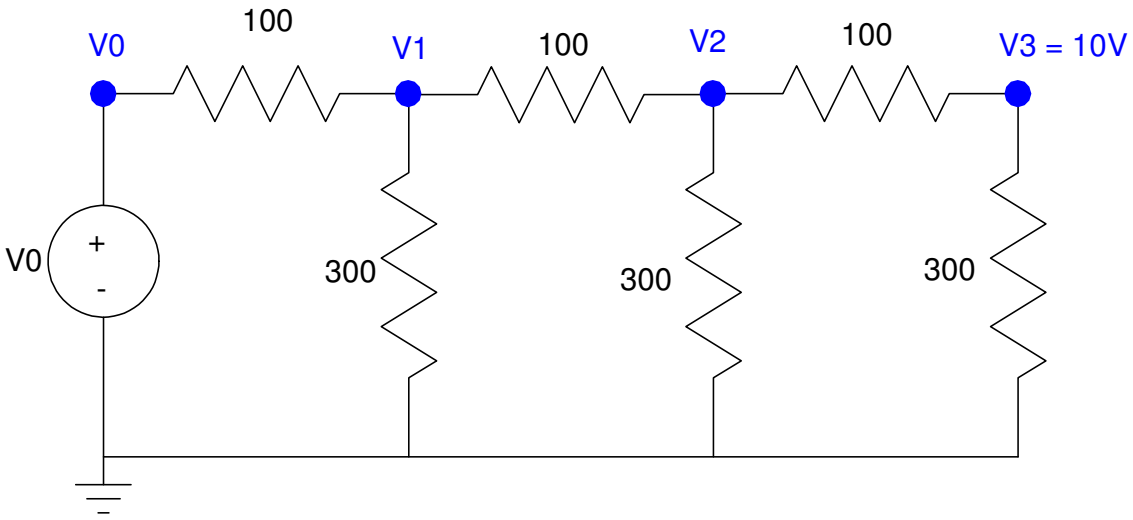


3) Write N equations to allow you to solve for the N unknown currents



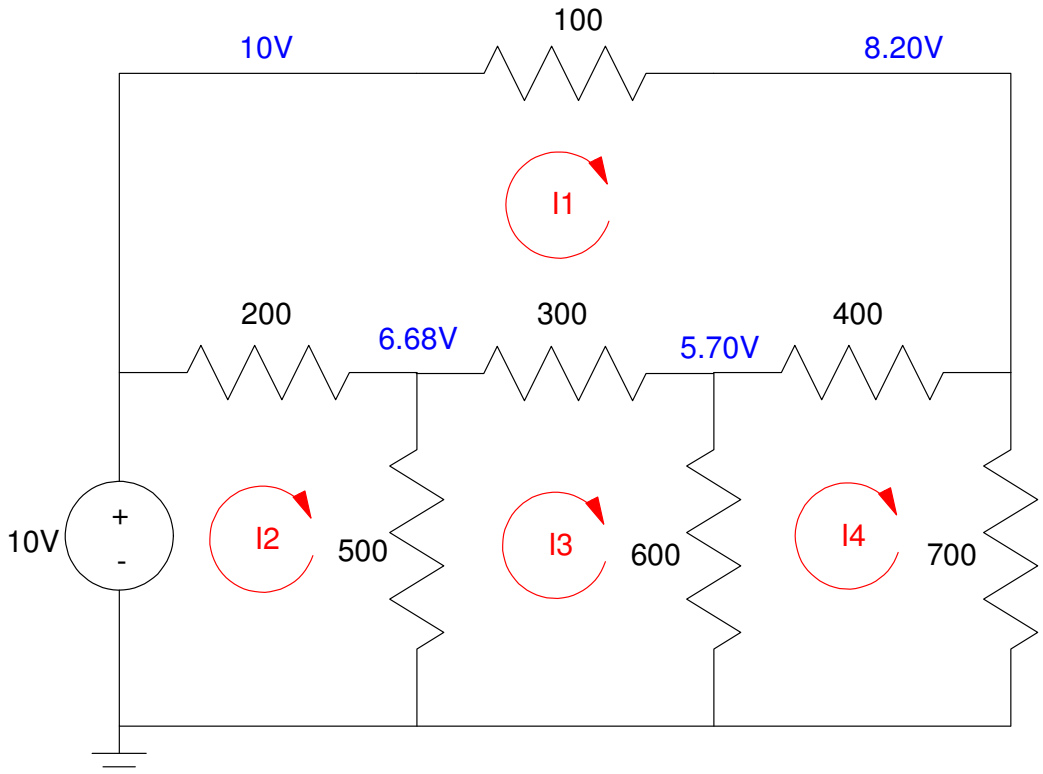
4) For the following circuit, the voltage at V3 is measured as 10V. Determine the voltages V0, V1, V2 (hint: use voltage division)

V0	V1	V2	V3
			10.0V



5) Given the voltages, determine the loop currents

I1	I2	I3	I4



Bonus: There are 300 million people in the United States. How many people does it take for their total wealth to equal the total wealth of the poorest 150 million?