

Homework set #2, due 4/09/08:

2-31, 2-35, 2-39, 2-42, 2-43, 2-46, 2-52,
2-53, 2-56, 2-60

Quick review and bits I may have moved too fast on:

Ohm's law: $v=iR$

- When does this apply?
- When does it not apply?

Power: $p=vi$

- When does this apply?
- When does it not apply?

KCL

C=current

current FLOWS through links

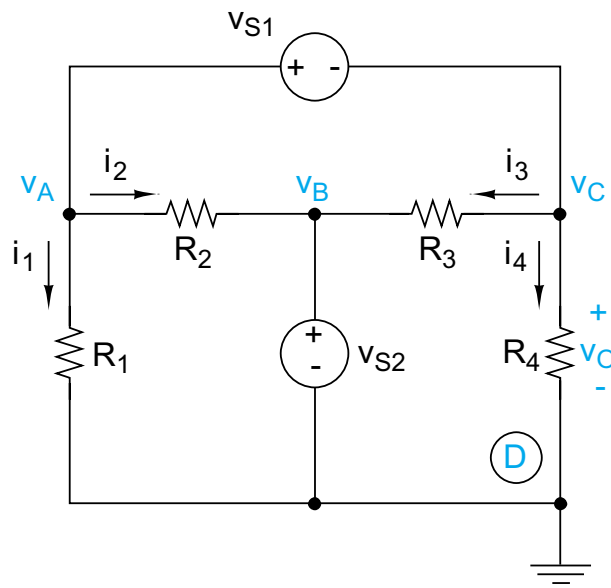
currents join/diverge (i.e., adds) at nodes

KVL

V=voltage

voltage is the difference in electric potential between two nodes

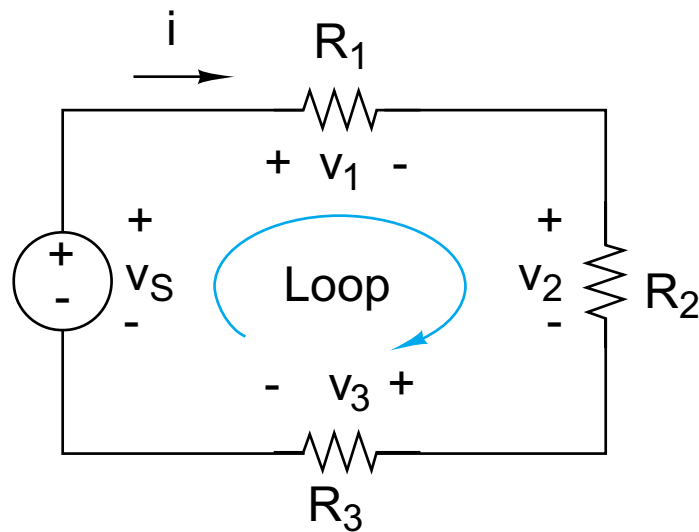
voltage adds around loops



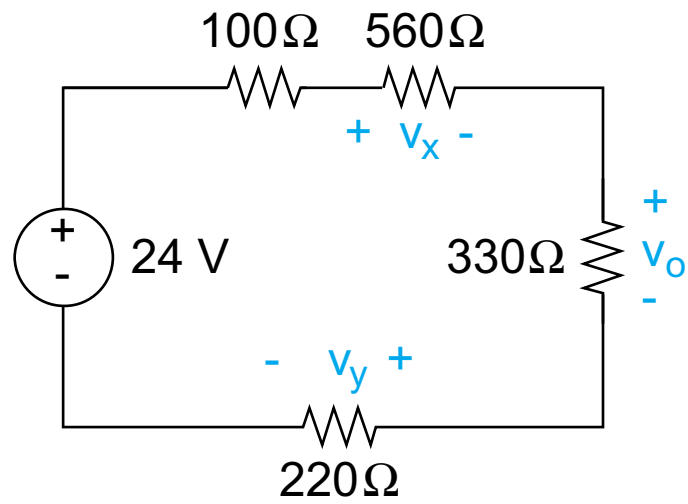
Okay, so I'm getting the feeling that there is something a little more systematic about this KVL stuff

(and you're showing signs of being a good engineer)

The first fancy trick we exploit is voltage division, e.g., find v_1 , v_2 and v_3 in the following circuit:



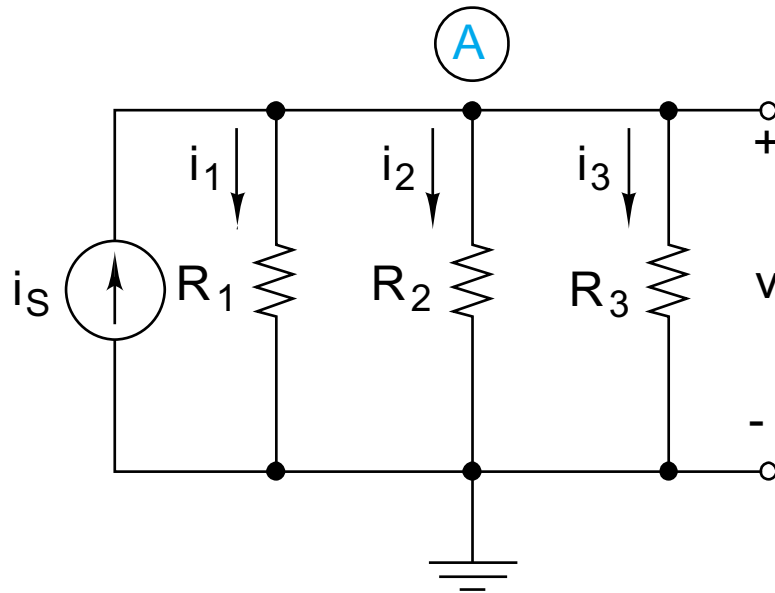
Find v_x and v_y in the following circuit:



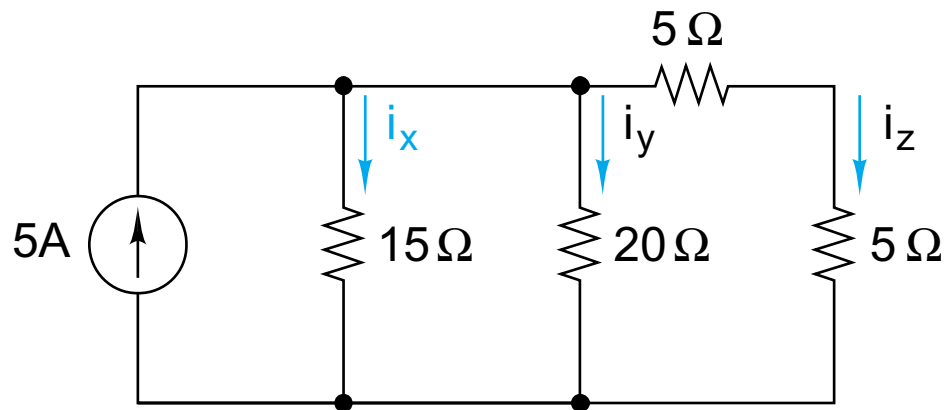
(hey, there are only so many simple circuits in the world)

And what about that KCL stuff, again I think there's something up

This time, it's current division, e.g., find i_1 , i_2 and i_3 in the following circuit:

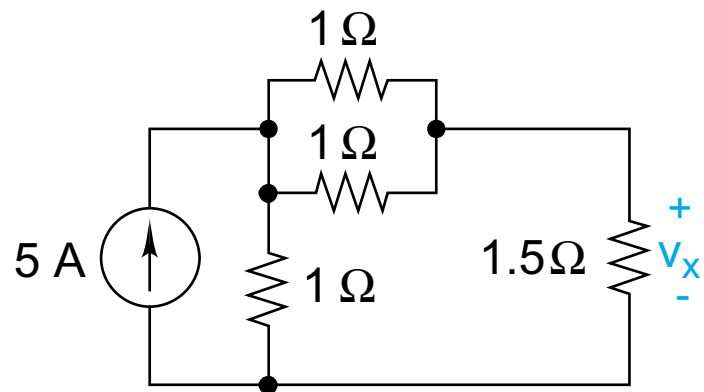


Find i_z in the following circuit:



(not exactly the one in the book this time)

I'm telling you, these things are just tools. Use voltage division and/or current division to find v_x



Now take a stab at using voltage division and/or current division to find i_x

