Homework set #2, due 4/10/06:
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

![Circuit Diagram](image-url)
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 $v_x$. 

\[ \begin{align*} 
1 \Omega & \quad 1 \Omega \\
\downarrow & \quad \downarrow \\
1 \Omega & \quad 1.5 \Omega \\
5 \text{ A} & \\
\downarrow & \quad + \\
\quad & \quad - \\
\end{align*} \]
Now take a stab at using voltage division and/or current division to find $i_x$.