Ex:

Use Kirchhoff's laws to find the value of $v_1$ and $i_2$.

**SOL'N:** From a voltage-loop on the left side, we can find the voltage across the current source, (components in parallel always have the same voltage drop in order to make a v-loop around them satisfy Kirchhoff's law for voltage):

$$v_1 - 24 \, \text{V} = 0 \, \text{V}$$

or

$$v_1 = 24 \, \text{V}$$

**NOTE:** We normally find a voltage for a current source only after we have solved a circuit for all resistor currents and voltages, but this example was so simple we could just find $v_1$ directly.

To find $i_1$, we use a current summation for the top node (or we could use a current sum for the bottom node and get the same result):

$$-5 \, \text{A} - 19 \, \text{A} + i_2 = 0 \, \text{A}$$

or

$$i_2 = 24 \, \text{A}$$