

Source: [KBhPHYS201CircuitCalculations](#)

1 | Kirchoff's Laws

A circuit!

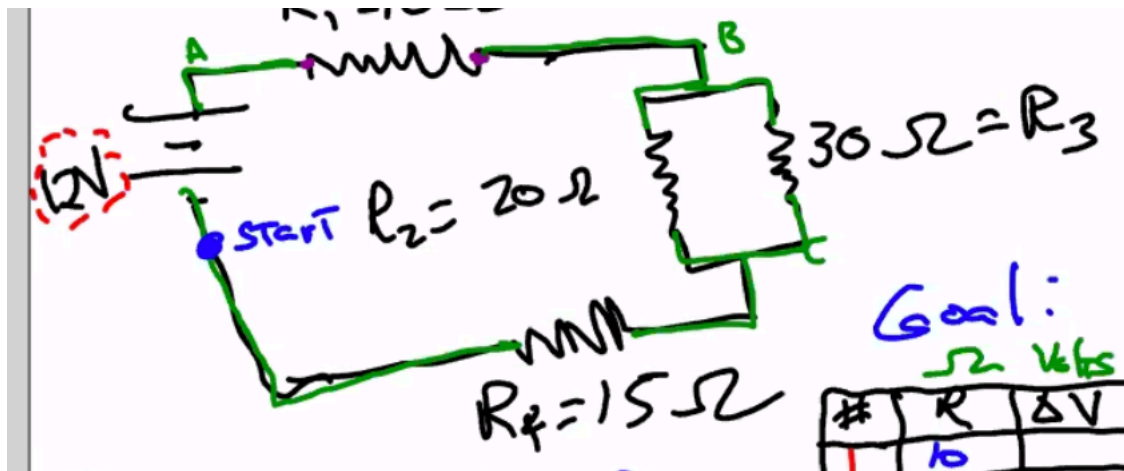


Figure 1: Screen Shot 2020-09-14 at 10.38.44 AM.png

Kirchoff's First Law Sum of voltage in any closed loop should add up to 0

As in, the sum of all voltage changes from Start => Start will add up to 0.

Kirchoff's Second law Net current flowing into a node is 0

With a current i_0 , when it flows into a junction like B, the current i_0 splits into i_2 and i_3

So, to calculate the resistance and current at every point o

START at start

- +12
- $-I_1 * 10$ (per $I = \frac{\Delta V}{\text{resistance}}$)
- $-I_2 * 20$
- $-I_1 * 15$
- = 0

$I_1 - I_2 - I_3 = 0$, per Kirchoff's Second Law.