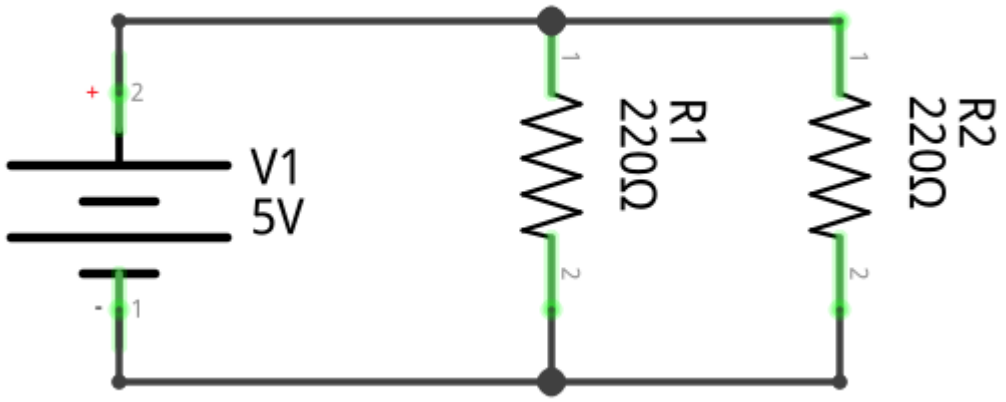
9.11 - Notes
ETR113

Parallel Circuit: Current Divider



Properties of Parallel Circuits:

Parallel circuits have multiple paths for current to flow.

Voltage is the same for each path.

The Sum of each current path is equal to the total current:

$$I_T = I_1 + I_2 ... + ... I_N$$

If a path is broken, the other paths still flow...

Total Resistance = NOT - All resistances added together

$$R_T = \frac{R_1 * R_2}{R_1 + R_2}$$

OR

$$\frac{1}{R_T} = \frac{1}{R_1} + \frac{1}{R_2} ... + ... \frac{1}{R_N}$$

Which is the same as:

$$R_T = \frac{1}{\frac{1}{R_1} + \frac{1}{R_2} ... + ... \frac{1}{R_N}}$$