9.04 - Notes
ETR113

Voltage: Potential difference in charge between two points
Current: Rate of flow of electrons in a single instance
Resistance: Material resistance to current

Ohm's Law: The relationship between these elements

Volts = V
Amperes (Amps) = I
Resistance (Ohms) = Ω

$$V = I \cdot R$$

Solve for I:

$$V = I \cdot R$$

$$5 = I \cdot 220$$

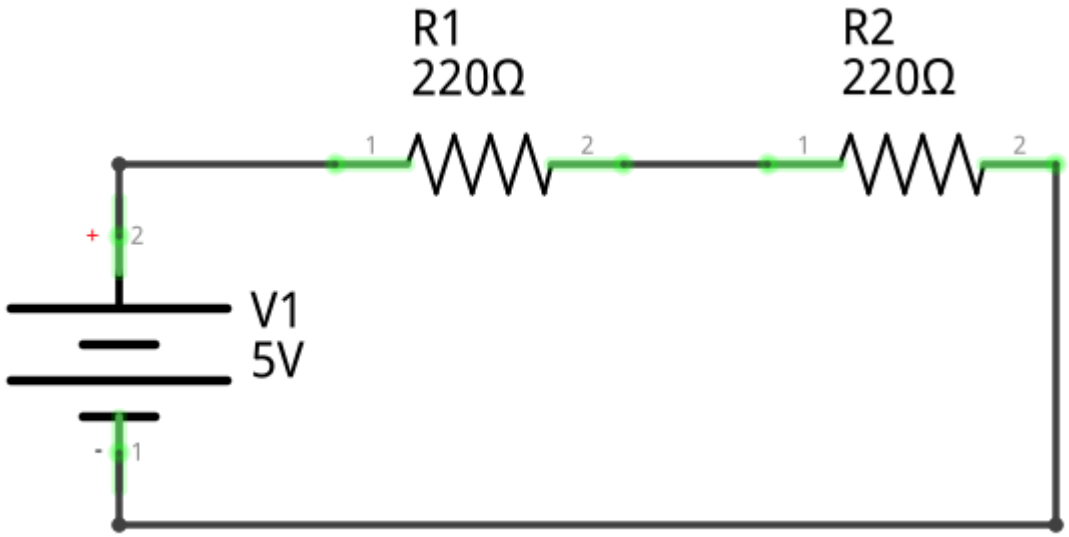
$$\frac{V}{R} = I$$

$$\frac{5}{220} = ?$$

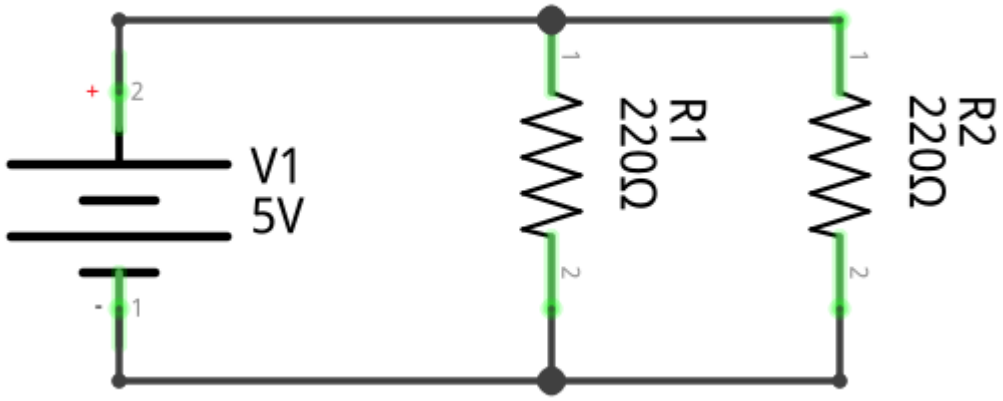
$$I = .0227\,A$$

$$I = 22.7\,mA$$

Series Circuit: Voltage Divider



Parallel Circuit: Current Divider



Properties of Series Circuits:

Total Resistance = All resistances added together

$$R_T = R_1 + R_2$$

Resistor Value of LED: Find values on datasheet

$$\frac{(V_S - V_F)}{I_F}$$