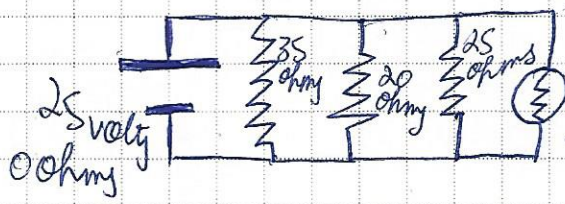
TITLE

PHET Circuit Simulation

Calculations

Calculate total voltage, Resistance, and current:



Total voltage

Voltage is same across each component of a parallel circuit

$V_T = 25$ volts

Total Resistance

$$\frac{1}{R_T} = \frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3} + \frac{1}{R_4} \text{ ohms}$$

$$R_T = \frac{1}{\frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3} + \frac{1}{R_4}} \text{ ohms} = \frac{1}{\frac{1}{35} + \frac{1}{20} + \frac{1}{25} + \frac{1}{10}} \text{ ohms}$$

$= 4.5751633$ ohms $\approx$ **4.5752 ohms**

Total Current

$$I_T = \frac{V_T}{R_T} \text{ amps} = \frac{25}{4.5752} = 5.464242 \text{ amps}$$

≈ 5.4642 amps

DESIGNED BY: Surya DATE 2/29/16

WITNESSED BY: DATE 2/29/16