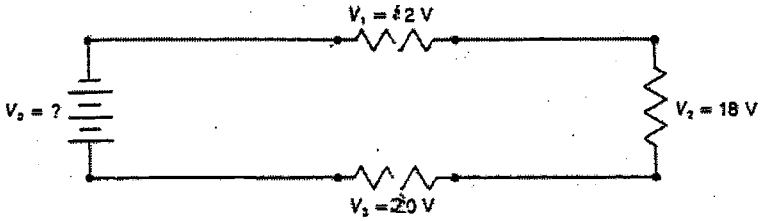
Key

# Practice - Kirchoff's Laws

**Practice**

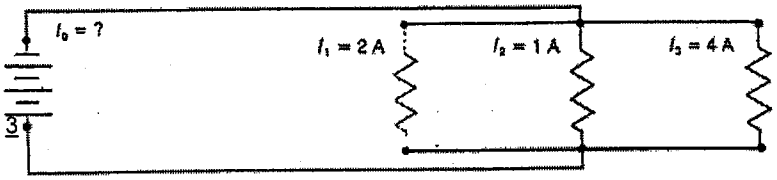
1. Find $V_T$ in this circuit:




**Loads connected in series have the same current; loads connected in parallel have the same potential difference.**

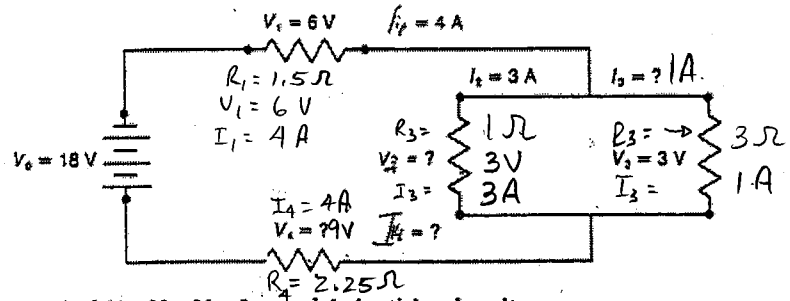
$V_T = 40V$

2. Find $I_T$ in this circuit:




$I_T = 7A$

3. Find $V_2$, $V_4$, $I_3$, and $I_4$ in this circuit:

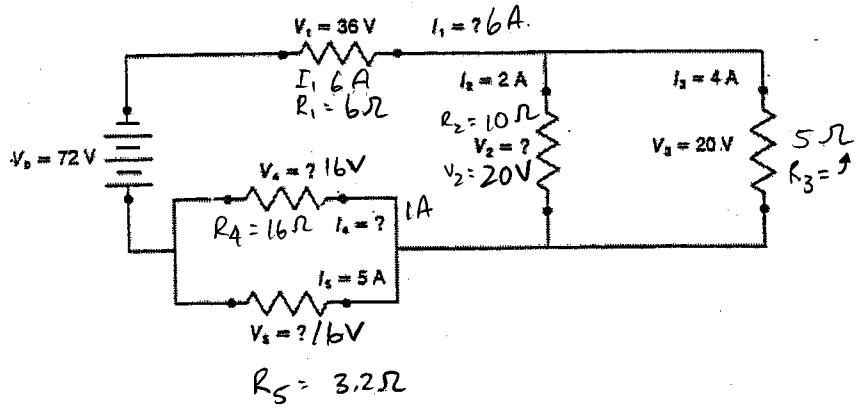



$V_T = 18V$

$I_T = 4A$

$R_T = 4.5\Omega$

4. Find $V_2$, $V_3$, $V_4$, $I_1$, and $I_4$ in this circuit:

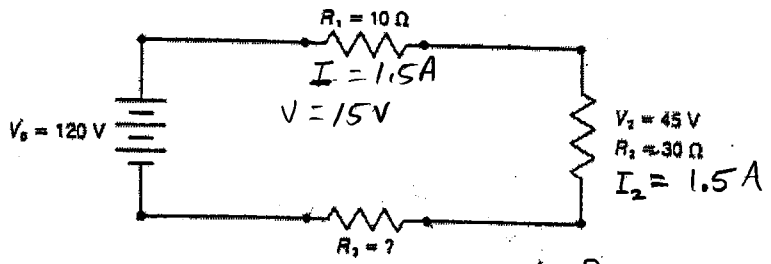



$V_T = 72V$

$I_T = 6A.$

$R_T = 12\Omega$

3. In this circuit, find $V_1$, $V_2$, $I_1$, $I_2$, $I_3$, and $R_3$.




$I\ 1.5A \quad R = 40\Omega$

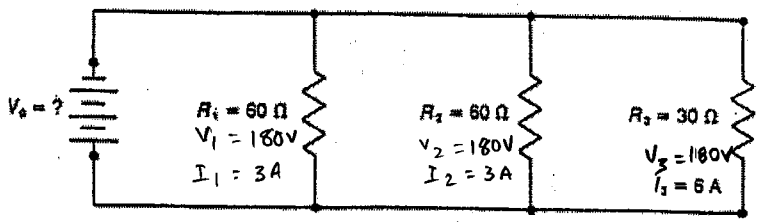
$V = 60V$

$V_T = 120V$

$I_T = 1.5A$

$R_T = 80\Omega$

4. In this circuit, find $V_0$, $V_1$, $V_2$, $V_3$, $I_0$, $I_1$, and $I_2$.

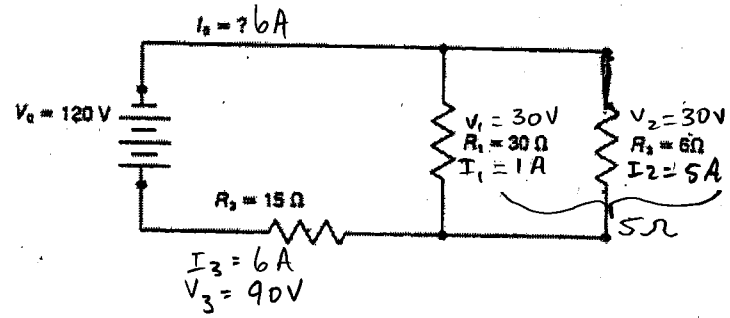



$V_T = 180V$

$R_T = \frac{1}{60} + \frac{1}{60} + \frac{1}{30} = \frac{4}{60} = \frac{1}{RP}$ (15Ω)

$I_T = 12A$

5. In this circuit, find $V_1$, $V_2$, $V_3$, $I_0$, $I_1$, $I_2$, and $I_3$.

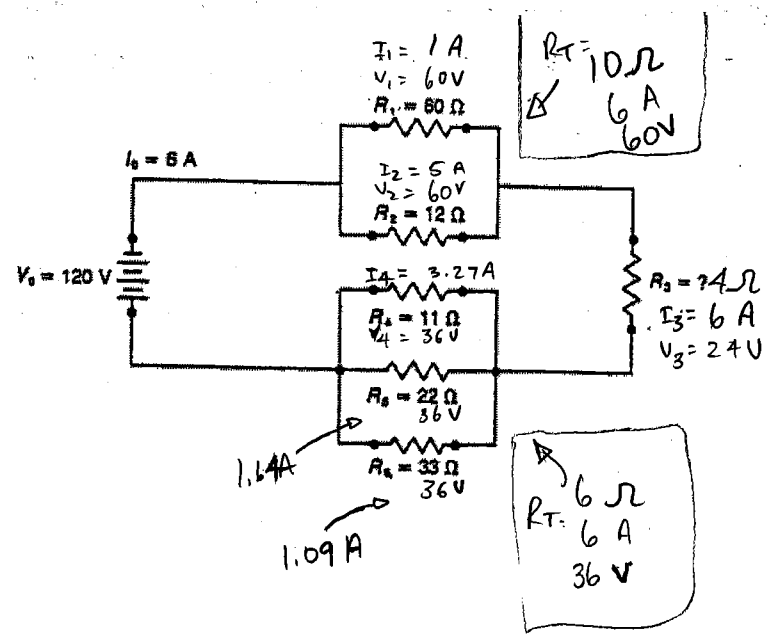



$V_T = 120V$

$I_T = 6A$

$R_T = 20\Omega$

6. Solve for all.




$V_T = 120V$

$I_T = 6A$

$R_T = 20\Omega$