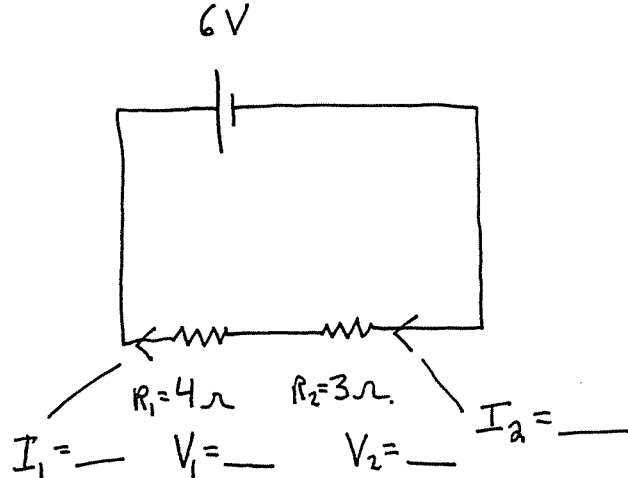


Physics 12 Chapter 18/19 Circuit Analysis Worksheet #1

Name: _____

1. Find the required missing values. Show your working in clearly defined (boxed) steps.



① $R_{TOT} = 7\Omega$

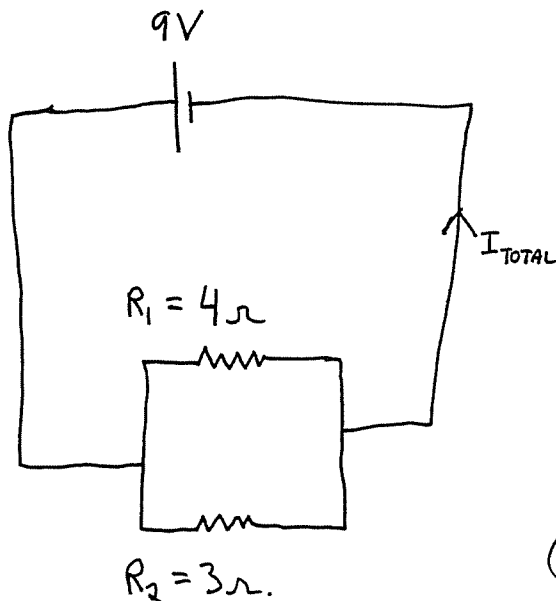
② $I_{TOT} = \frac{V}{R} = \frac{6}{7} = 0.8571\Omega$

$I_{TOT} = I_1 = I_2$

③ $V_1 = I_1 R_1 = (0.8571)(4) = 3.43V$

④ $V_{GAIN} = V_{LOSS}$
 $6V = V_1 + V_2$
 $V_2 = 2.57V$

2. Find the required missing values. Show your working in clearly defined (boxed) steps.



$I_1 = \underline{\hspace{1cm}}$ $V_1 = \underline{\hspace{1cm}}$

$I_2 = \underline{\hspace{1cm}}$ $V_2 = \underline{\hspace{1cm}}$

$I_{TOTAL} = \underline{\hspace{1cm}}$

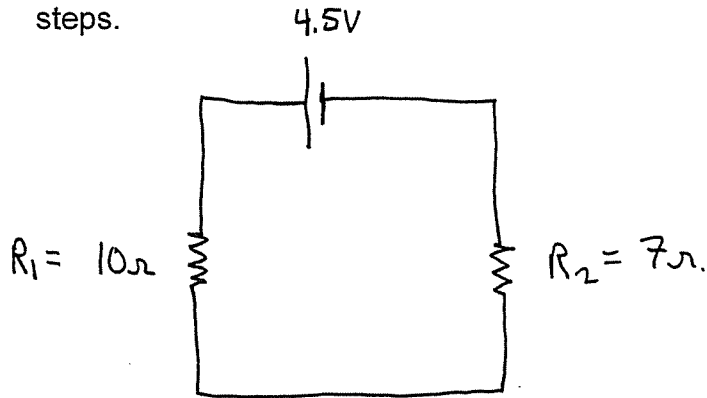
① $R_{TOT} = 1.714\Omega$

② $I_{TOT} = \frac{V}{R} = 5.249A$

③ $I_1 = \frac{V}{R} = \frac{9}{4} = 2.25A$

$I_2 = \frac{V}{R} = \frac{9}{3} = 3.0A$

3. Find the required missing values. Show your working in clearly defined (boxed) steps.



$$I_1 = \underline{\hspace{2cm}} \quad V_1 = \underline{\hspace{2cm}}$$

$$I_2 = \underline{\hspace{2cm}} \quad V_2 = \underline{\hspace{2cm}}$$

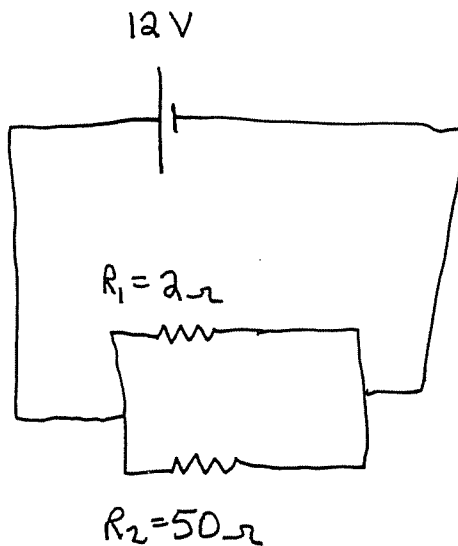
① $R_{TOT} = 17\Omega$

② $I_{TOT} = I_1 = I_2 = \frac{4.5}{17} = 0.2647\text{A}$

③ $V_1 = IR = (0.2647)(10) = 2.647\text{V}$

④ $V_2 = IR = (0.2647)(7) = 1.8529\text{V}$

4. Find the required missing values. Show your working in clearly defined (boxed) steps.



$$I_1 = \underline{\hspace{2cm}} \quad V_1 = \underline{\hspace{2cm}}$$

$$I_2 = \underline{\hspace{2cm}} \quad V_2 = \underline{\hspace{2cm}}$$

① $V_{GAIN} = V_{LOSS}$
 $12\text{V} = V_1 = V_2$

② $I_1 = \frac{V}{R} = \frac{12}{2} = 6\text{A}$

③ $I_2 = \frac{V}{R} = \frac{12}{50} = 0.24\text{A}$