J.M.J.

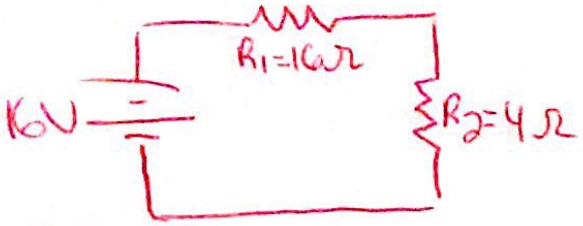
Name: KEY

Physics A1

Date: _____

Period 2

1. I have a series circuit with two resistors and a 16.0 V battery. One resistor is 6.0 ohms, the other is 4.0 ohms. What is the total resistance and total current of this circuit?



$R_T = R_1 + R_2$

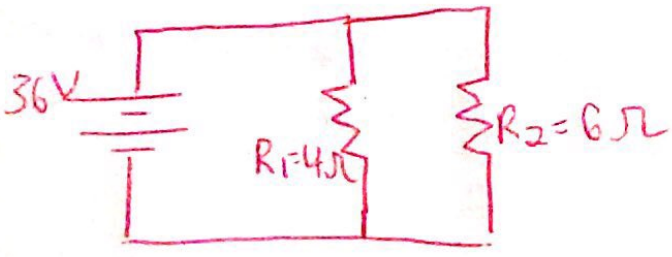
$R_T = 6\Omega + 4\Omega$

$R_T = 10\Omega$

$I_T = \frac{16V}{10\Omega}$

$I_T = 1.6\,A$

2. I have a parallel circuit with two resistors and a 36 V battery. One resistor is 4.0 ohms, the other is 6.0 ohms. What is the total resistance and total current of this circuit?



$\frac{1}{R_T} = \frac{1}{4\Omega} + \frac{1}{6\Omega}$

$\frac{1}{R_T} = 0.42$

$R_T = \frac{1}{0.42}$

$R_T = 2.38 \approx 2.4\Omega$

$I_T = \frac{V_T}{R_T}$

$I_T = \frac{36V}{2.4\Omega}$

$I_T = 15\,A$