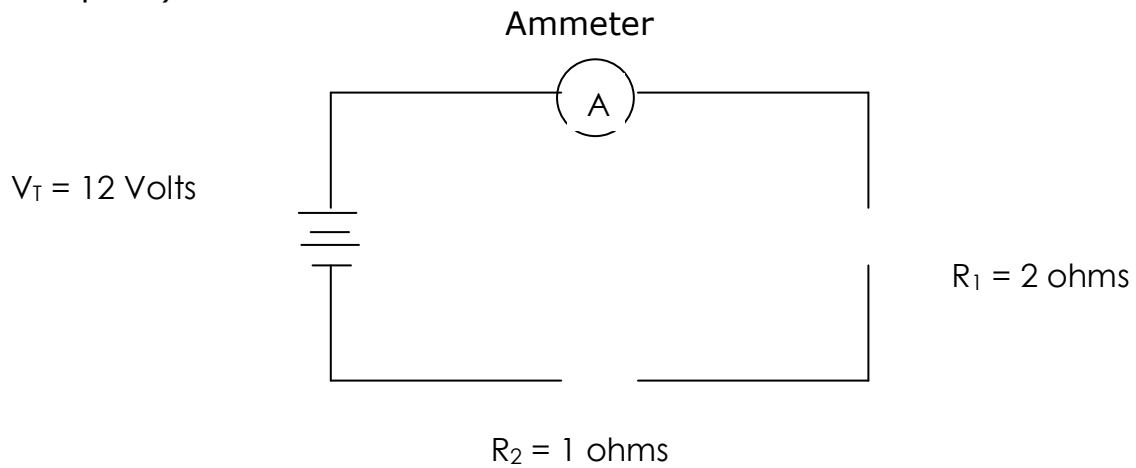


Series and Parallel Circuits handout PART 2

Example 6) Series Circuit



a) Find the equivalent resistance R_T

b) Find the current (I_T) going through this circuit

$$V_T = I_T R_T$$

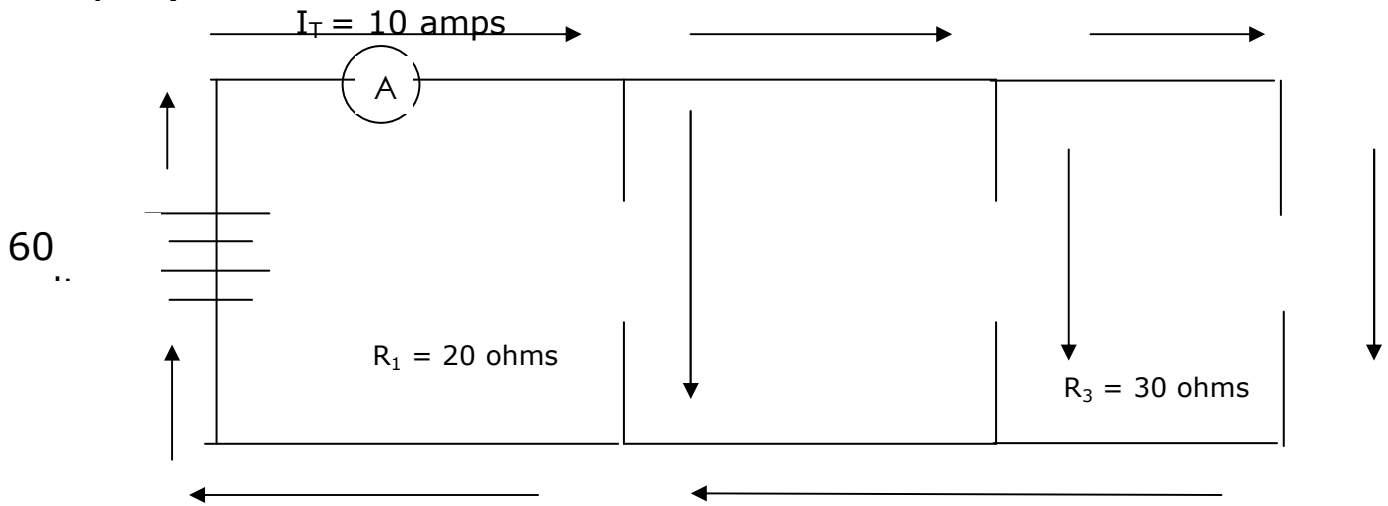
c) Find potential drop across R_1 and R_2

$$V = I R$$

$$V_1 =$$

$$V =$$

Example 7)



a) Find the combined resistance (R_T)

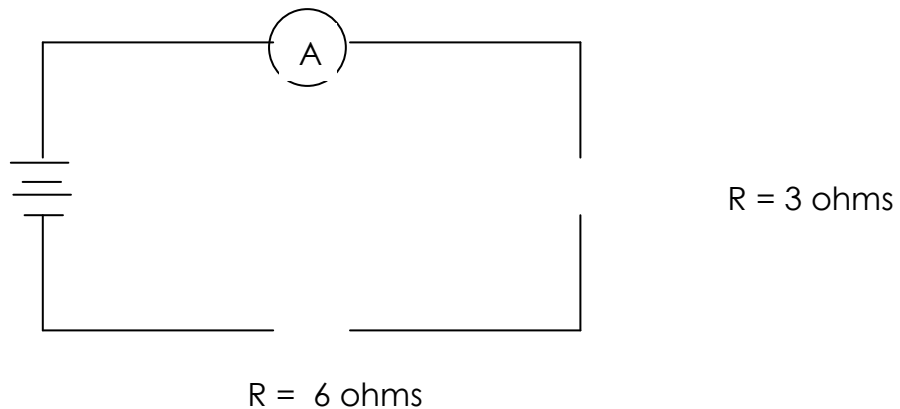
b) Find the **current** in R_1

c) Find I_3

In a series circuit:

The **potential drop (V)** across a resistor is **proportional to resistance**

Example 8)



If the voltage drop across the **3 ohms** resistor is **4 volts** then the voltage drop across the **6 ohm** resistor is _____ **volts**

a) Find the total voltage in this series circuit _____

b) Find the combined resistance in this circuit _____

c) Find the total current in this circuit _____

II) Electric Power

Power - time rate of doing work or expending energy

$$\text{(watts) } P = W \text{ (J)} / t \text{ (seconds)}$$

since $V = W/q$, CROSS MULTIPLY **then** $W = \underline{\hspace{2cm}}$

SUBSTITUTE *** $P = Vq / t = \underline{\hspace{4cm}}$

All these equations are in the **reference table**

P = VI *since* $V = IR$... THEN **P =** $\underline{\hspace{2cm}}$ *since* $I = V/R$...

THEN **P =** $\underline{\hspace{4cm}}$

Electric Energy and Heat

(W) Electric energy consumed or released as heat

All these equations are in the reference table

(J) $W \underline{\hspace{4cm}}$