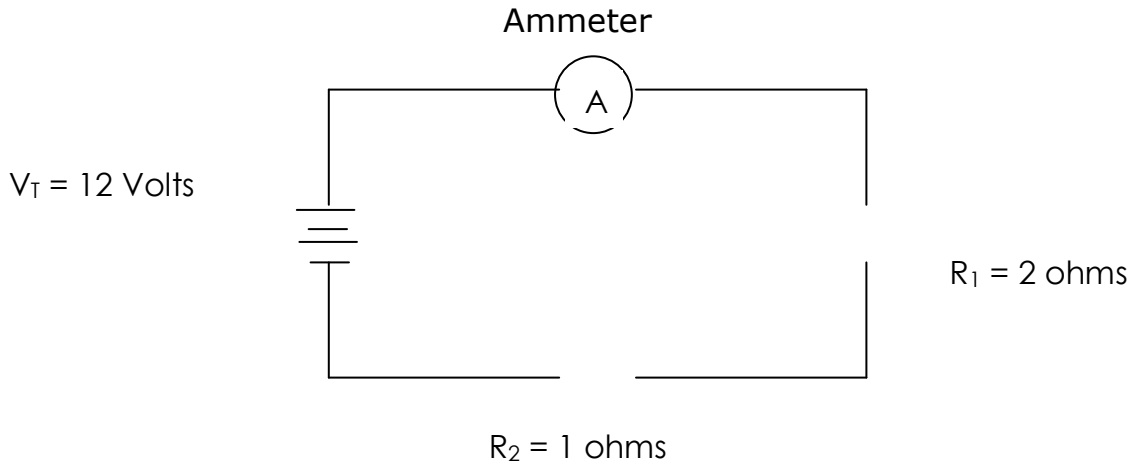
Series and Parallel Circuits handout PART 2

Example 6) Series Circuit



a) Find the equivalent resistance R_T

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

$V_T = I_T R_T$

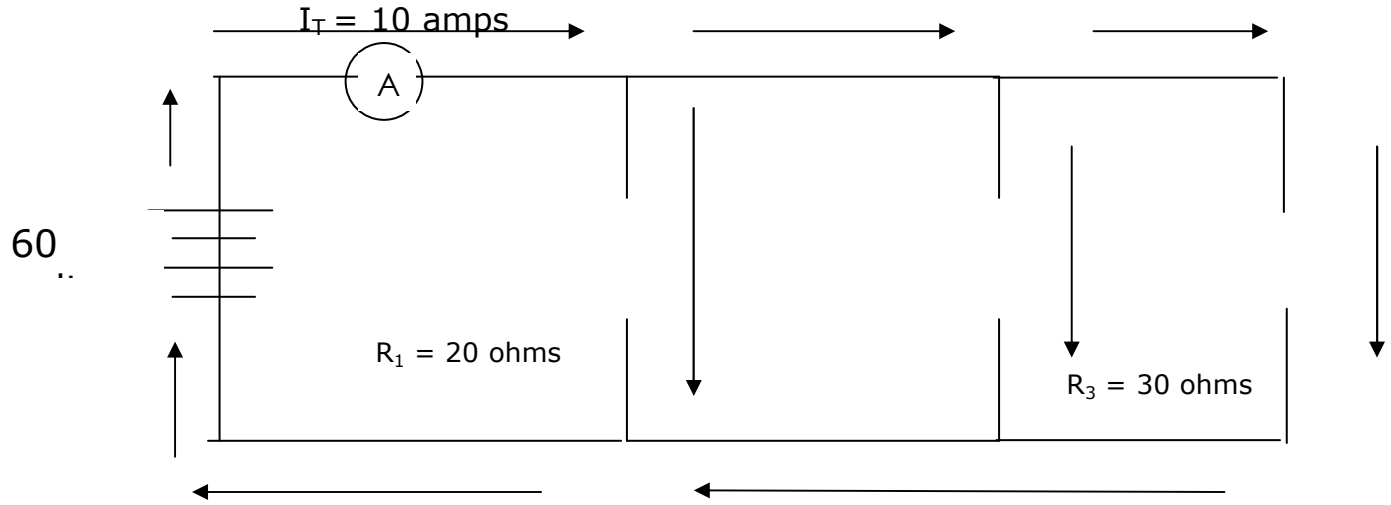
c) Find potential drop across R_1 and R_2

$V = I R$

$V_1 =$

$V =$

Example 7)



a) Find the combined resistance (R_T)

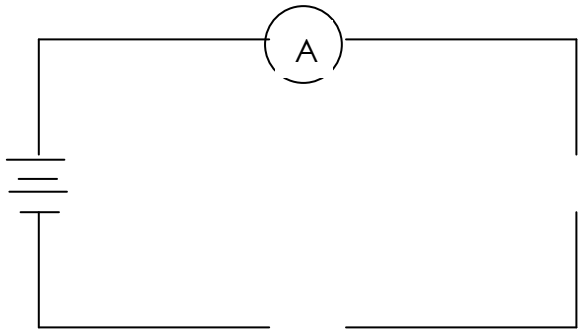
b) Find the **current** in R_1

c) Find I_3

In a series circuit:

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

Example 8)



R = 3 ohms

R = 6 ohms

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 _____

ll) Electric Power

Power - time rate of doing work or expending energy

(watts) P = W (J)/ t (seconds)

since V = W/q , CROSS MULTIPLY **then** W = _____

SUBSTITUTE *** P = V**q/ t** = _____

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

P = VI *since* V = IR …. THEN **P = _____** *since* I = V/R …

THEN **P = _____**

Electric Energy and Heat

(W) Electric energy consumed or released as heat

All these equations are in the reference table

(J) W _____