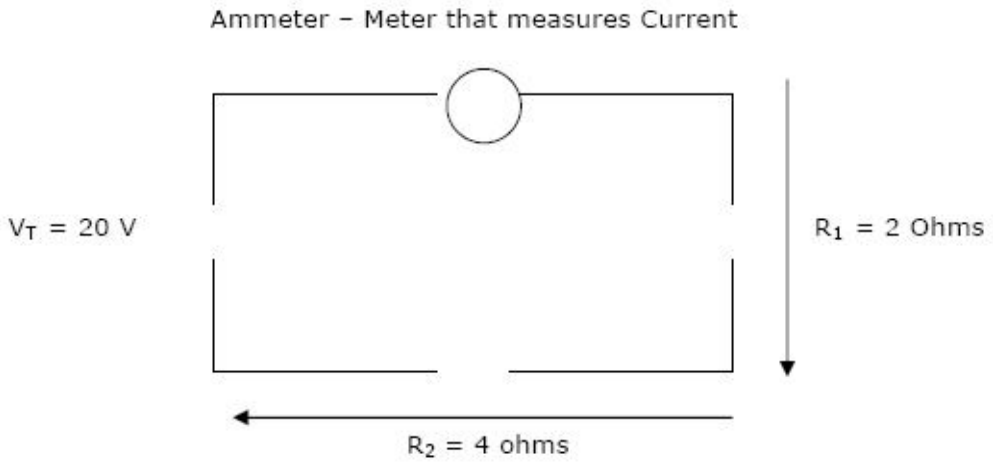
Series and Parallel Circuits Handout

H) Series and Parallel circuits

1) **Series circuit** - circuit that has only **one current path**



Reference Table Equations

a) I_T =

b) R_T =

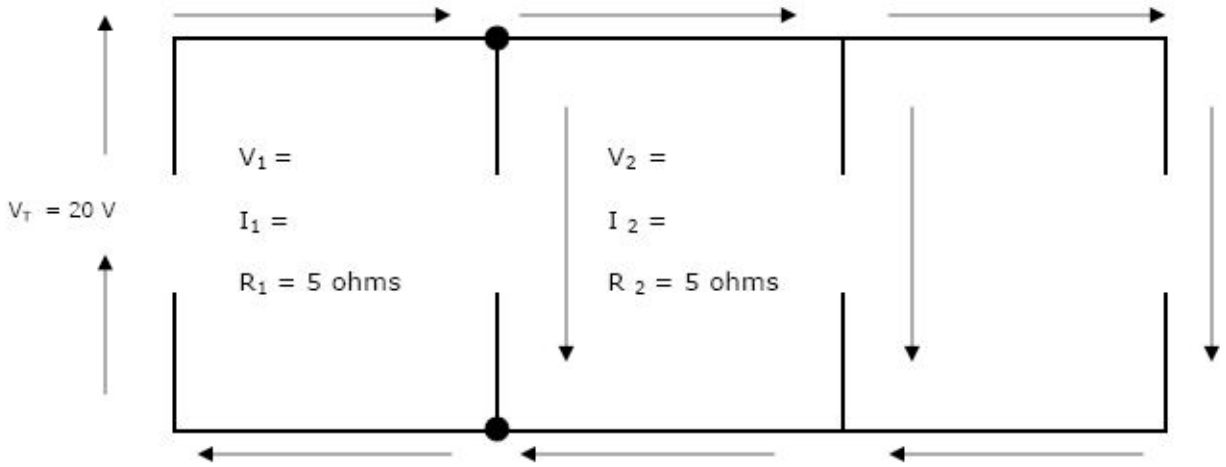
c)

d) V_T =

Find the total current (I_T)

Answer :

2) **Parallel Circuit** - circuit in which each component has its own circular path



a) I_T =

For example **If** I_1 = 2 amps, I_2 = 3 amps I_3 = 4 amps

Then …. I_T = _____amps

b)

*** Write in the correct voltages in the picture above

c)
*** Use the above equations to find the current going through the first and second resistor

I_1 = _____
I_2 = _____

****If the **total current** in this circuit is **18 amps**, what is the current going through the last resistor?

****What's R_3 ? _____

Finding Total Resistance in a Parallel Circuit

Deriving an Equation for Total Resistance

Since I_T =

Then …

On Reference Table

R_T - total Resistance is also called

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Find the total Resistance for three resistors of 2 ohms, 5 ohms and 2 ohms connected in parallel.

1. Substitute

2. Find common denominator and solve