

1. Series <u>F</u>	A. The voltage across any wire.
2. Short Circuit <u>E</u>	B. A circuit with multiple paths for current to flow.
3. Parallel <u>B</u>	C. Where current splits or joins.
4. Branch <u>D</u>	D. An independent path for electricity in a parallel circuit.
5. Junction <u>C</u>	E. When a wire by-passes a part of a circuit.
6. Zero <u>A</u>	F. A circuit with only one path for the electricity.

1. $R_1$ <u>C</u>	A. Voltage between A and B.
2. $V_T$ <u>B</u>	B. The total voltage in the circuit.
3. $I_T$ <u>E</u>	C. The resistance of resistor 1.
4. $V_2$ <u>F</u>	D. The current in branch 2 of the circuit.
5. $I_2$ <u>D</u>	E. Total current in the circuit.
6. $R_T$ <u>G</u>	F. The voltage of battery 2.
7. $V_{AB}$ <u>A</u>	G. The total resistance of the circuit.

Series or Parallel Circuit?

S Only one path for the electricity to flow.  
S Paths are dependent on each other (one affects the other).  
P How your house is wired.  
P Paths are independent of each other.  
P If one light turns off, the others stay on.  
S If you turn off one light, all the lights turn off.  
P Has more than one path for the electricity to flow.  
S Two devices have the same current.  
P Two devices have the same voltage.

Are these devices in Series or Parallel?

A. P      B. S      C. S      D. P

$V_T = \underline{2V}$        $R_T = \underline{9\Omega}$        $V_T = \underline{18V}$        $R_T = \underline{3\Omega}$

Understanding current.  
 Fill in the missing information on the following graphics.

$V_T = \underline{12V}$        $V_{FG} = \underline{0V}$        $V_{ED} = \underline{6V}$   
 $V_{AB} = \underline{0V}$        $V_{FB} = \underline{12V}$        $V_{AC} = \underline{0V}$   
 $V_{EA} = \underline{12V}$        $V_{CE} = \underline{12V}$        $V_{DC} = \underline{12V}$

- A) What is the total voltage above? 12V  
 B) What is the voltage from B to F? 12V  
 C) What is the resistance from B to F? 4Ω  
 D) Find the current flowing from B to F (label it on the diagram).  $I = \frac{V}{R} = \frac{12V}{4\Omega} = 3A$   
 E) How much current flows from C to G (label it)?  
3A  
 F) So, using D and E above, what is the total current going thru point E (this is the total current [ $I_T$ ])?  
6A  
 G) Using  $V_T$  and  $I_T$ , find the total resistance of the circuit [ $R_T$ ].  
 $R_T = \frac{V_T}{I_T} = \frac{12V}{6A} = 2\Omega$

Which resistor will have more current running thru it? 5Ω  
 Why? Less Resistance

Which light bulb will be brighter? 5Ω