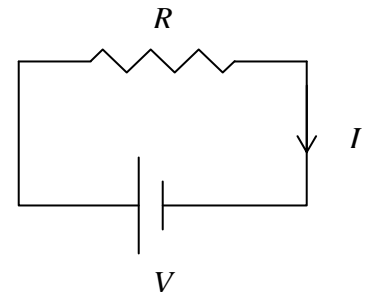
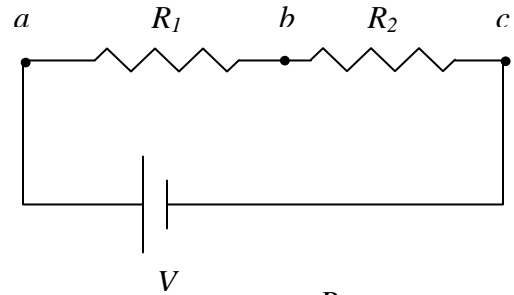


W11.01 Resistor Circuits 1

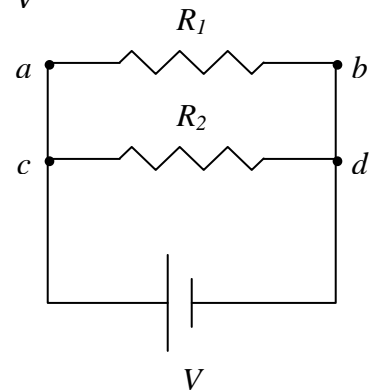
1. I is 2 amps and V is 6 volts.
 - a. What is R ?
 - b. If the resistance was halved, what would happen to the current?
 - c. If the voltage of the battery was tripled, what would happen to the current?
 - d. How many junctions are in this circuit?



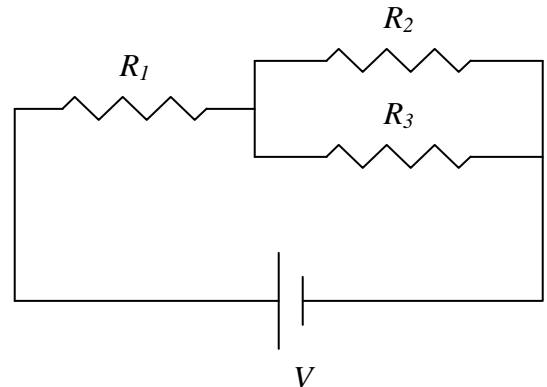
2. V is 12 volts, R_1 is $2\ \Omega$, and R_2 is $1\ \Omega$.
 - a. How much does potential drop from a to b ?
 - b. How much does potential drop from b to c ?
 - c. What is the current through the battery?
 - d. What is the current through R_1 ?
 - e. If R_1 and R_2 were bulbs, which would be brighter?



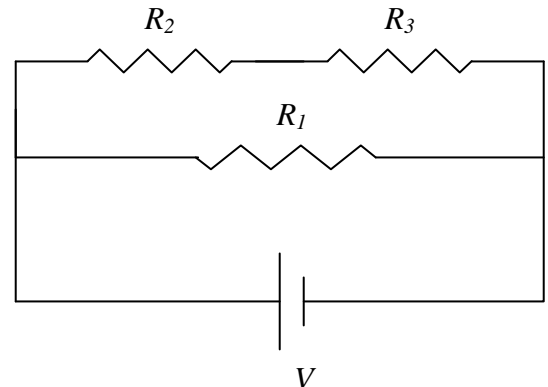
3. V is 12 volts, R_1 is $2\ \Omega$, and R_2 is $1\ \Omega$.
 - a. How much does potential drop from a to b ?
 - b. How much does potential drop from c to d ?
 - c. What is the current through R_1 ?
 - d. What is the current through R_2 ?
 - e. What is the current through the battery?
 - f. How many junctions are in this circuit?
 - g. How many branches are in the circuit?
 - h. If R_1 and R_2 were bulbs, which would be brighter?



4. V is 24 volts, R_1 is $3\ \Omega$, R_2 is $12\ \Omega$, and R_3 is $4\ \Omega$.
 - a. Find the current through each resistor.
 - b. Find the potential drop across each resistor.
 - c. Find the total current flow through the battery.



5. V is 24 volts, R_1 is $4\ \Omega$, R_2 is $9\ \Omega$, and R_3 is $3\ \Omega$.
 - a. Find the current through each resistor.
 - b. Find the potential drop across each resistor.
 - c. Find the total current flow through the battery.



W11.01 KEY

1.

- a. 3Ω
- b. Current would double.
- c. Current would triple.
- d. 0

2.

- a. 8 V
- b. 4 V
- c. 4 A
- d. 4 A
- e. R_1

3.

- a. 12 V
- b. 12 V
- c. 6 A
- d. 12 A
- e. 18 A
- f. 2
- g. 3
- h. R_2

4.

- a. $I_1 = 4 \text{ A}$, $I_2 = 1 \text{ A}$, $I_3 = 3 \text{ A}$
- b. $V_1 = V_2 = V_3 = 12 \text{ V}$
- c. 4A

5.

- a. $I_1 = 6 \text{ A}$, $I_2 = I_3 = 2 \text{ A}$
- b. $V_1 = 24 \text{ V}$, $V_2 = 18 \text{ V}$, $V_3 = 6 \text{ V}$
- c. 8 A