

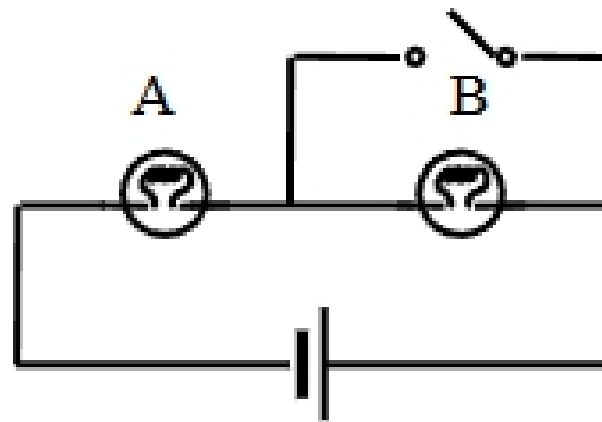
Three resistors, R_1 , R_2 , and R_3 , are connected in series to a battery. Which will result if the resistance of R_3 is increased?

- A) The current through R_1 and R_2 will increase.
- B) The voltage across R_1 and R_2 will increase.
- C) The voltage across the entire circuit will increase.
- D) The power used by the entire circuit will increase.
- E) The current through the entire circuit will decrease.

A 100 W light bulb is placed in series with a 60 W light bulb. Given that the brightness is proportional to the power dissipated, which will burn brighter?

- A) 60 W
- B) 100 W
- C) The same

The circuit below consists of two identical light bulbs burning with equal brightness and a single 12 V battery. When the switch is closed, the brightness of bulb A

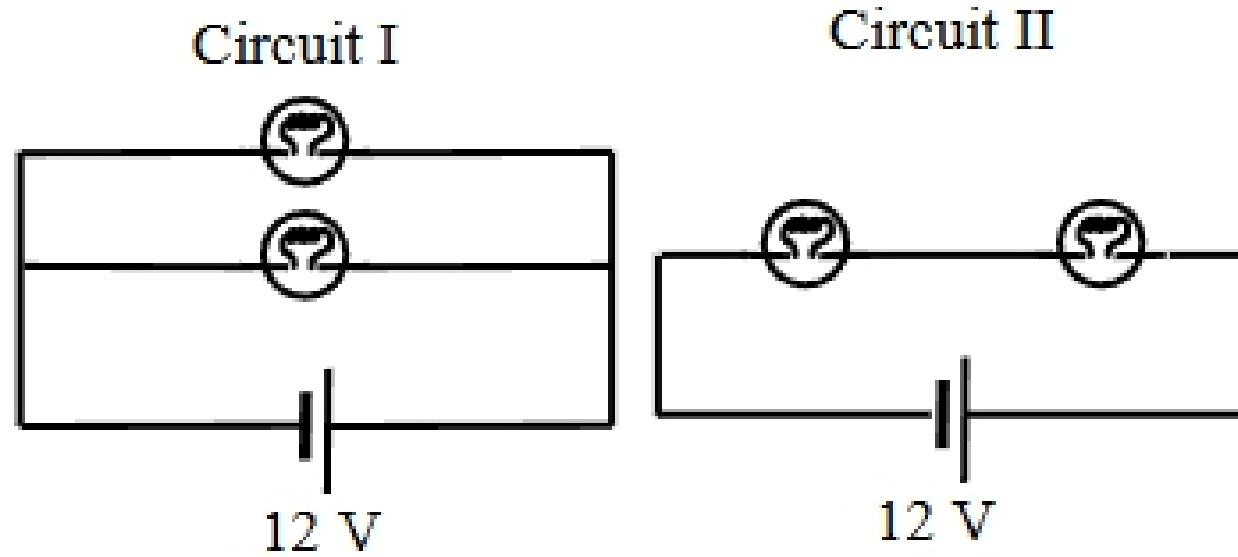


- A) increases
- B) decreases
- C) remains unchanged

A simple series circuit contains a resistance R and an ideal battery. If a second resistor is connected in parallel with R ,

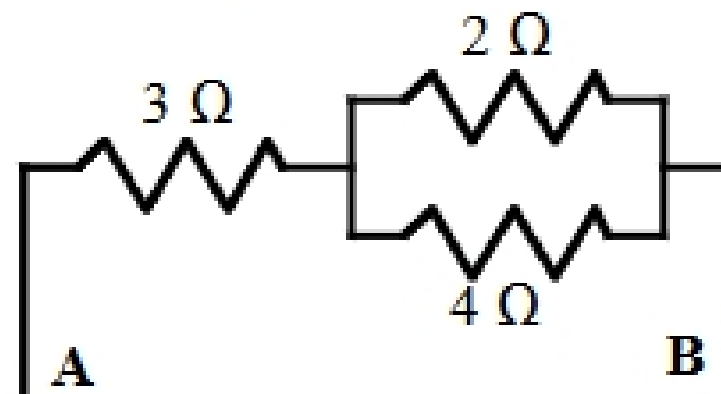
- A) the voltage across R will decrease.
- B) the voltage across R will increase.
- C) the total current in the circuit will increase.
- D) the rate of heat production in R will increase.
- E) the equivalent resistance of the circuit will increase.

If the four light bulbs in the figure are identical, which circuit puts out more light?



- A) I B) II
C) The two emit the same amount of light

In the following circuit, what is the equivalent resistance between points A and B.



- A) 3.75 Ω B) 4.33 Ω
C) 6.33 Ω D) 6.75 Ω
E) 9.00 Ω