

Selected Questions from Electric Circuits: Sublevels 4#6

EC1 Resistance, Voltage and Current

1

If the voltage across a circuit is tripled, then the current through the circuit would be _____.

- one-third as much
- three times as much
- unchanged
- ... nonsense! There would be no way to make such a prediction.

EC1 Resistance, Voltage and Current

2

If the resistance of a circuit is tripled, then the current through the circuit would be _____.

- one-third as much
- three times as much
- unchanged
- ... nonsense! There would be no way to make such a prediction.

EC1 Resistance, Voltage and Current

3

Decreasing the resistance of a wire in an electrical circuit will _____ the current through the circuit.

- decrease
- increase
- not affect

EC1 Resistance, Voltage and Current

4

Which of the following will cause the current through an electrical circuit to decrease? List all that apply in alphabetical order with no spaces between letters.

- decrease the voltage
- decrease the resistance
- increase the voltage
- increase the resistance

EC1 Resistance, Voltage and Current

5

The resistance of a wire will increase if it is _____. List all that apply in alphabetical order with no spaces between letters.

- made longer
- made thicker (diameter increased)
- made shorter
- made thinner (diameter decreased)
- connected to a higher voltage battery
- put in a circuit with a lower current

EC1 Resistance, Voltage and Current

6

Which of the following will cause the current through an electrical circuit to increase? List all that apply in alphabetical order with no spaces between letters.

- increase the voltage
- increase the resistance
- decrease the resistance
- decrease the voltage

EC1 Resistance, Voltage and Current

7

Decreasing the resistance of a wire in an electrical circuit will _____ the current through the circuit.

- increase
- decrease
- not affect

EC1 Resistance, Voltage and Current

8

Increasing the resistance of a wire in an electrical circuit will _____ the current through the circuit.

- increase
- decrease
- not affect

9

What is the resistance (in ohms) of an appliance that has a power rating of 100 Watts when connected to a 120-Volt outlet? (Enter your answers to the second decimal place.)

10

How much current (in amps) does a 244-Watt appliance draw when plugged into a typical 120-Volt outlet in your home? (Enter your answers to the second decimal place.)

11

A light bulb is plugged into a 120-Volt outlet and left on for 10 minutes. If it uses up 90000.0 Joules of energy, then what is the power rating (in Watts) of the light bulb?

12

A 120-Watt light bulb plugged into a 120-Volt outlet is left on for 60 seconds. How much energy (in Joules) is used up by the bulb during this time?