Electricity

Sci F

Name _____ Class _____ Date _____

1 A **watt** is a measure of electrical _____.

A resistance
B work
C power
D current

2 In the early 1800s, German physicist George Ohm formulated Ohm's law through his study of electric current. Using **Ohm's law**, calculate the resistance in ohms (Ω) if the current is **6** amperes and the voltage is **12**.

A 2 Ω **C** 6 Ω
B 3 Ω **D** 12 Ω

$$R = \frac{V}{I}$$

3 I = V/R is the **same formula** as _____.

A I = R/V
B V = I x R
C R x V = I
D R = R x V

4 Use the **wattage** in the picture to calculate the **amperes** being used by the lightbulb shown below. The **bulb in the picture** is plugged into a **110-volt** electrical outlet.

A 4 A
B 3 A

5

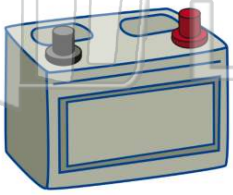
7

B supply voltage
C decrease amperes
D decrease resistance

B it increases amperes
C it loses voltage
D it gains resistance

9 The function of a **car battery** is to _____.

A start the car
B power the brakes
C power the engine
D use only for emergencies



10 A **2-volt** light bulb does not work with a **1-volt** battery. What is the reason for this?

A there is not enough resistance
B there are too many amperes
C there is not enough electrical potential
D there is too much voltage

ANSWER KEY

A **watt** is a measure of electrical _____.

A resistance
B work
C power
D current

c

In the early 1800s, German physicist George Ohm formulated Ohm's law through his study of electric current. Using **Ohm's law**, calculate the resistance in ohms (Ω) if the current is **6** amperes and the voltage is **12**.

A 2 Ω
B 3 Ω
C 6 Ω
D 12 Ω

$$R = \frac{V}{I}$$

a

I = V/R is the **same formula** as _____.

A I = R/V
B V = I x R
C R x V = I
D R = R x V

b

Use the **wattage** in the picture to calculate the **amperes** being used by the lightbulb shown below. The **bulb in the picture** is plugged into a **110-volt** electrical outlet.

A 4 A
B 3 A
C 0.5 A

c

T
2
e
th

A
B
C
D

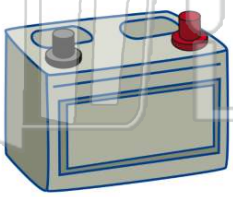
V
s

A
B
C
D decrease resistance

C it loses voltage
D it gains resistance

The function of a **car battery** is to _____.

A start the car
B power the brakes
C power the engine
D use only for emergencies



a

A **2-volt** light bulb does not work with a **1-volt** battery. What is the reason for this?

A there is not enough resistance
B there are too many amperes
C there is not enough electrical potential
D there is too much voltage

c