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# Technician Question Pool

## July 2018 to June 2022

### The MORE Project

<http://n2re.org/m-o-r-e-project>

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# Electrical Principles

## No-Nonsense pages 7-8

### Ohm's Law

Hams obey Ohm's Law!  $E = I \times R$

Ohm's Law is the relationship between voltage, current, and resistance in an electrical circuit. When you know any two of these values, you can calculate the third.



# T5D02

What formula is used to calculate voltage in a circuit?

- A. Voltage (E) equals current (I) multiplied by resistance (R)
- B. Voltage (E) equals current (I) divided by resistance (R)
- C. Voltage (E) equals current (I) added to resistance (R)
- D. Voltage (E) equals current (I) minus resistance (R)



# T5D02

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- D. Voltage (E) equals current (I) minus resistance (R)



# T5D03

What formula is used to calculate resistance in a circuit?

- A. Resistance (R) equals voltage (E) multiplied by current (I)
- B. Resistance (R) equals voltage (E) divided by current (I)
- C. Resistance (R) equals voltage (E) added to current (I)
- D. Resistance (R) equals voltage (E) minus current (I)





# T5D03

What formula is used to calculate resistance in a circuit?

A. Resistance (R) equals voltage (E) multiplied by current (I)

**B. Resistance (R) equals voltage (E) divided by current (I)**

C. Resistance (R) equals voltage (E) added to current (I)

D. Resistance (R) equals voltage (E) minus current (I)



# T5D01

What formula is used to calculate current in a circuit?

- A. Current (I) equals voltage (E) multiplied by resistance (R)
- B. Current (I) equals voltage (E) divided by resistance (R)
- C. Current (I) equals voltage (E) added to resistance (R)
- D. Current (I) equals voltage (E) minus resistance (R)



# T5D01

What formula is used to calculate current in a circuit?

- A. Current (I) equals voltage (E) multiplied by resistance (R)
- B. Current (I) equals voltage (E) divided by resistance (R)**
- C. Current (I) equals voltage (E) added to resistance (R)
- D. Current (I) equals voltage (E) minus resistance (R)





# T5D04

What is the resistance of a circuit in which a current of 3 amperes flows through a resistor connected to 90 volts?

- A. 3 ohms
- B. 30 ohms
- C. 93 ohms
- D. 270 ohms



# T5D04

What is the resistance of a circuit in which a current of 3 amperes flows through a resistor connected to 90 volts?

- A. 3 ohms
- B. 30 ohms**
- C. 93 ohms
- D. 270 ohms



# T5D05

What is the resistance in a circuit for which the applied voltage is 12 volts and the current flow is 1.5 amperes?

- A. 18 ohms
- B. 0.125 ohms
- C. 8 ohms
- D. 13.5 ohms



EP2 Q5 of 12

FCC Tech 7/18 to 6/22  
Ohm's Law

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# T5D05

What is the resistance in a circuit for which the applied voltage is 12 volts and the current flow is 1.5 amperes?

- A. 18 ohms
- B. 0.125 ohms
- C. 8 ohms**
- D. 13.5 ohms



# T5D06

What is the resistance of a circuit that draws 4 amperes from a 12-volt source?

- A. 3 ohms
- B. 16 ohms
- C. 48 ohms
- D. 8 ohms



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# T5D06

What is the resistance of a circuit that draws 4 amperes from a 12-volt source?

- A. 3 ohms
- B. 16 ohms
- C. 48 ohms
- D. 8 ohms



# T5D07

What is the current in a circuit with an applied voltage of 120 volts and a resistance of 80 ohms?

- A. 9600 amperes
- B. 200 amperes
- C. 0.667 amperes
- D. 1.5 amperes



# T5D07

What is the current in a circuit with an applied voltage of 120 volts and a resistance of 80 ohms?

- A. 9600 amperes
- B. 200 amperes
- C. 0.667 amperes
- D. 1.5 amperes**



# T5D08

What is the current through a 100-ohm resistor connected across 200 volts?

- A. 20,000 amperes
- B. 0.5 amperes
- C. 2 amperes
- D. 100 amperes



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# T5D08

What is the current through a 100-ohm resistor connected across 200 volts?

- A. 20,000 amperes
- B. 0.5 amperes
- C. 2 amperes**
- D. 100 amperes





# T5D09

What is the current through a 24-ohm resistor connected across 240 volts?

- A. 24,000 amperes
- B. 0.1 amperes
- C. 10 amperes
- D. 216 amperes



# T5D09

What is the current through a 24-ohm resistor connected across 240 volts?

- A. 24,000 amperes
- B. 0.1 amperes
- C. 10 amperes**
- D. 216 amperes



# T5D10

What is the voltage across a 2-ohm resistor if a current of 0.5 amperes flows through it?

- A. 1 volt
- B. 0.25 volts
- C. 2.5 volts
- D. 1.5 volts



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# T5D10

What is the voltage across a 2-ohm resistor if a current of 0.5 amperes flows through it?

- A. 1 volt
- B. 0.25 volts
- C. 2.5 volts
- D. 1.5 volts



# T5D11

What is the voltage across a 10-ohm resistor if a current of 1 ampere flows through it?

- A. 1 volt
- B. 10 volts
- C. 11 volts
- D. 9 volts



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# T5D11

What is the voltage across a 10-ohm resistor if a current of 1 ampere flows through it?

- A. 1 volt
- B. 10 volts**
- C. 11 volts
- D. 9 volts



# T5D12

What is the voltage across a 10-ohm resistor if a current of 2 amperes flows through it?

- A. 8 volts
- B. 0.2 volts
- C. 12 volts
- D. 20 volts



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# T5D12

What is the voltage across a 10-ohm resistor if a current of 2 amperes flows through it?

- A. 8 volts
- B. 0.2 volts
- C. 12 volts
- D. 20 volts**





A non-profit initiative by the IEEE and ARDC to increase the numbers of youth (12-18) and non-males in Amateur Radio. Participants earn FCC licenses and receive free 2-way radios.

For MORE information: [n2re.org/m-o-r-e-project](http://n2re.org/m-o-r-e-project)  
Dr. Rebecca Mercuri, Grant Administrator, [rtmercuri@ieee.org](mailto:rtmercuri@ieee.org)

