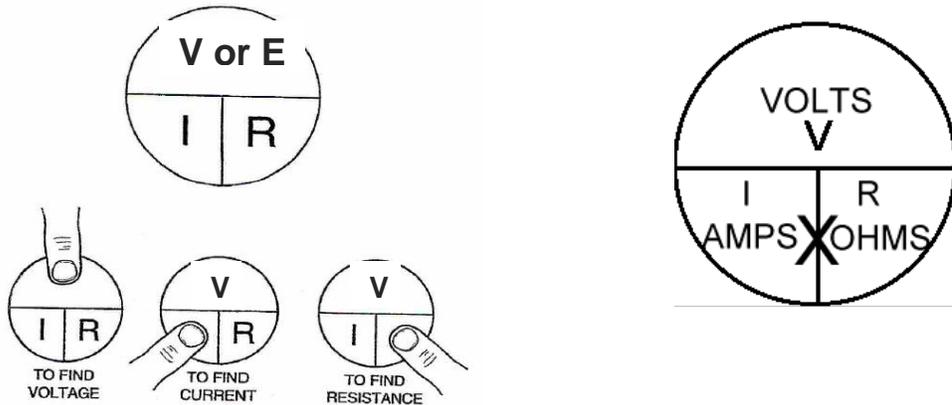


Ohms Law Worksheet

Intro to Ohms Law run time 5:25 <https://www.youtube.com/watch?v=-jX3dezzMg>



Ohm's Law Defined: In its most simple form, Ohm's Law states that it takes one volt to push one amp through one ohm.

There are three basic formulas to Ohm's Law:

1. $V = I \times R$ 2. $I = \frac{V}{R}$ 3. $R = \frac{V}{I}$

Keys to the formulas: **E** = Electromotive force (EMF) or **voltage**

I = Intensity of current or **amperage**

R = Resistance or **ohms**

The wheel above is divided into three sections:

Volts V (on top of the dividing line) *The letter "E" is sometimes used in representations of Ohm's Law for voltage instead of the "V" as in the wheel*

Amps (amperes)

I (lower left below the dividing line)

Resistance R (lower right below the dividing line)

X represents the (multiply by sign)

Memorize this wheel

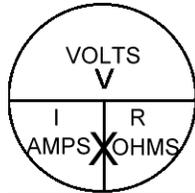
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To use, just cover the unknown quantity you need with your mind's eye and what is left is the formula to find the unknown.

Example:

To find the current of a circuit (I), just cover the I or *Amps* section in your mind's eye and what remains is the V volts above the dividing line and the R ohms (resistance) below it. Now substitute the known values. Just divided the known volts by the known resistance.

Your answer will be the current in the circuit.



1. $V = I \times R$

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

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

Practice Problems

1. A toaster's heating element has a resistance of 13 ohms and is connected to a standard household voltage of 120 volts. How many amps will flow in this circuit?
2. If a 240-volt circuit has a current flow of 25 amps, how much resistance does the circuit possess?
3. What is the current in a 12V circuit if the resistance is 2Ω ?
4. What is the resistance of a circuit with 120V and 10A?