USING WATTS LAW

Amps x Volts = Watts

Amps = the rate of electrical current flow in a conductor.
The larger the wire, the more current can
be safely carried by the conductor. Because of
this, conductors and the breakers that protect them
are rated in amps.
> If you were comparing amperage to water
it would be the equivalent of gallons per minute.

Volts = the force or pressure which pushes the electrical current
through the conductor. Also know as *Electromotive Force.*
> Using the water analogy, volts would be the equivalent of
pounds per square inch (PSI).

Watts = the amount of power it takes to operate an electrical device
or appliance. Electrical use is measured in kilowatts
(thousands of watts) per hour- or kilowatt hours.

**Watts Law - Amps, Volts, and Watts all have a direct
relationship. This can be expressed in
a mathematical equation:**

$$A \times V = W \quad \text{or} \quad \frac{W}{A} = V \quad \text{or} \quad \frac{W}{V} = A$$

In other words - if you know any two
of the variables you can find the third.

Example1: $\dfrac{1000w}{120v} = 8.33a$

Example2: $\dfrac{18,000\ w}{75a} = 240v$

Example3: $15a \times 120v \ X = 1800w$