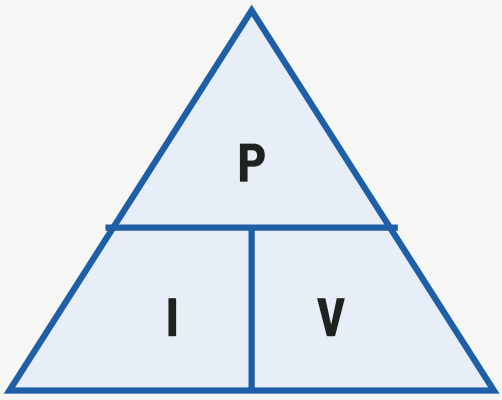
THE POWER TRIANGLE

HOW MUCH CURRENT DOES A 20 WATT LAMP REALLY DRAW?

Power is the rate at which energy is used. It is measured in **watts, W**, and **1 kW = 1000 W**.



P = watts · I = amps · V = volts

THE THREE FORMS

```
P = I × V     watts = amps × volts
I = P ÷ V     amps  = watts ÷ volts
V = P ÷ I     volts = watts ÷ amps
```

EXAMPLE 1: CURRENT DRAWN BY A 20 W LAMP

```
I = P ÷ V = 20 ÷ 230 = 0.087 A
  → round to 2 decimal places: 0.09 A  (≈ 87 mA)
```

EXAMPLE 2: POWER OF A LOAD DRAWING 16.92 A

```
P = I × V = 16.92 × 230 = 3891.6 W
                        = 3.892 kW
```

- Power is used by the **loads**, not by the cables. To get total power, add up every load. Three 20 W downlights = 60 W.
- Work to **2 decimal places**. If you round, round properly (0.087 → 0.09). Otherwise use the full number.

> **Which triangle?** Read what the question gives you.Given volts and ohms or amps, or asked for **resistance** → **Ohm's law** (V, I, R).
> Given **watts**, or asked for power → **power triangle** (P, I, V).

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