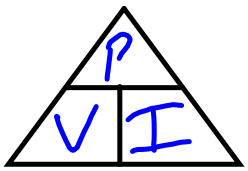
Power Notes

def: rate at which electric energy is transferred by an electric circuit.

Formula 2: P=VI

Triangle:



Units: W (watt) or kW (kilowatt)

Unless specified use W.

Conversion W to kW ÷ 1 000

Power worksheet

1. What happens to the power when current and voltage increases?

The power will increase.

2. What is the power used when a dishwasher used 220 V and 1.5 A?

$P = V \times I \quad 220 \times 1.5 = 330\ W$

3. What is the power used in kW when a dishwasher used 220 V and 1.5 A?

$P = VI \quad 220 \times 1.5 = 330 \div 1000 = .33\ kW$

4. What is the current intensity for a lamp that uses 200 W of power and 220 V?

$I = \frac{P}{V} \quad \frac{200}{220} = .9\ A$

5. What is the potential difference when a microwave runs on 2.2 A and uses 400 W of power?

$V = \frac{P}{I} \quad \frac{400}{2.2} = 181.8\ V$