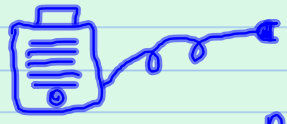
Ex 17.6 Power



$V = 50V$

Nichrome

$R = 8\Omega$

$I = ?$

$P = ?$

$V = IR$

$I = \frac{V}{R} = \frac{50V}{8\Omega} = 6.25\frac{V}{\Omega} = Amps$

$P = IV = 6.25 Amps \cdot 50 = 313 Watts$

If doubled (x2) V

100V

$I = \frac{100}{8} = 12.5 Amp$ doubled

$P = \frac{V^2}{R} = \frac{100^2}{8} = 1250 Watts$ quadrupled

$P = IV = I^2R = \frac{V^2}{R}$

$\frac{Q}{t} \cdot V = IV = P$

$\frac{C}{s} \cdot V = Amp \cdot V = Watt$

$1 KW \cdot h = 3.6 \times 10^6 J$

← Ohm's Law