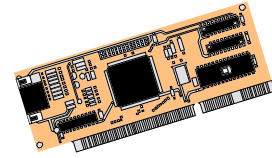




# Math Study Strategies

## Math for Electronics

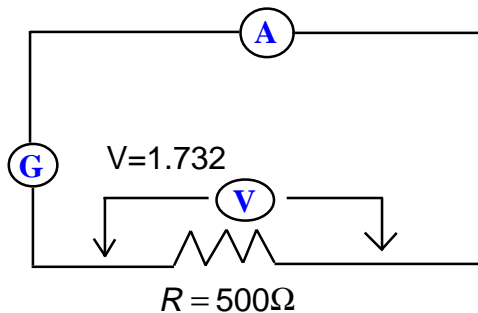
### Problem Solving (Page 2)



A voltage of  $1.732\text{ V}$  is applied across a  $500\Omega$  Resistor.

- How much power is expended in the resistor?
- How much current flows through the resistor?

Step 1- Draw the diagram of the circuit



Step 2

Ohm's formula  $P = VI$

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

Substituting in the given values

$$P = \frac{1.732^2}{500} = \frac{1.732^2}{5 \times 10^2} = \frac{1.732^2}{5} \times 10^{-2} = 0.006\text{W}$$

Converting to a smaller unit

$$.006\text{W} = \boxed{6\text{mW}}$$

Step 3

$$I = \frac{V}{R} = \frac{1.732}{500} = \frac{1.732}{5} \times 10^{-2} = 0.346 \times 10^{-2}\text{ A}$$

Doing the conversion

$$I = \boxed{3.46\text{mA}}$$