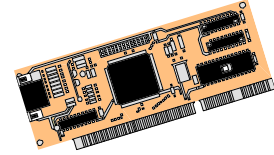




# Math Study Strategies

## Math for Electronics

### Problem Solving



The voltage across a circuit is  $250\text{V}$  and the current is  $5\text{mA}$ .  
What is the resistance of the circuit?

Given: voltage =  $250\text{V}$ , current =  $5\text{mA}$ .  
Looking for: Resistance (in  $\Omega$ )

#### Step 1

Convert  $5\text{mA}$  into  $\text{A}$

Use the following conversion:  $1000\text{mA} = 1\text{A}$

$$5\text{mA} = 5.0 \times 10^{-3}\text{A}$$

#### Step 2

Use Ohm's formula to calculate the resistance.

$$R = \frac{V}{I}$$

#### Step 3

Substitute the given values into the formula

$$R = \frac{250}{5.0 \times 10^{-3}}$$

$$R = 50,000\Omega$$

Convert  $R$  to a smaller number.

Use the following conversion:  $1000\Omega = 1\text{K}\Omega$

$$R = \boxed{50\text{K}\Omega}$$

(continued on next page)