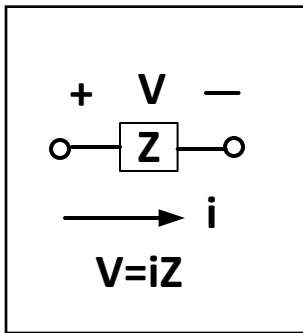


### Ohm's Law:



### Resistor Combinations:

**(a) Series:**

$$Z_{eq} = \sum_{k=1}^N Z_N$$

$Z_{eq} = Z_1 + Z_2$

**(b) Parallel:**

$$\frac{1}{Z_{eq}} = \sum_{k=1}^N \frac{1}{Z_k}$$

$Z_{eq} = \frac{Z_1 Z_2}{Z_1 + Z_2}$

### Voltage and Current Dividers:

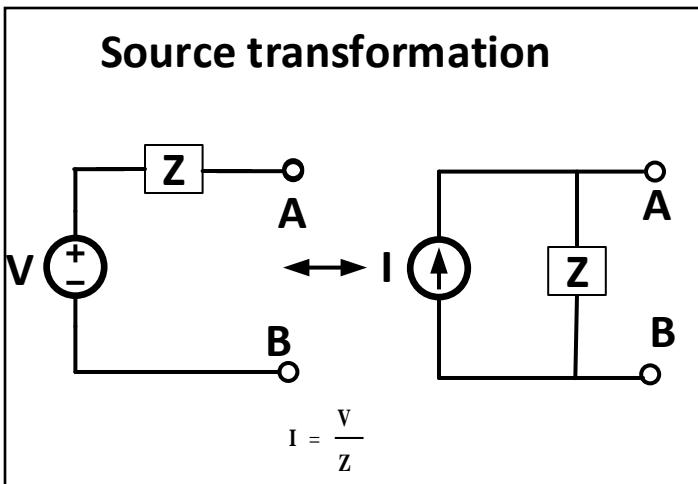
$V_1 = \frac{V Z_1}{Z_1 + Z_2}$

$V_2 = \frac{V Z_2}{Z_1 + Z_2}$

$I_1 = \frac{I Z_2}{Z_1 + Z_2}$

$I_2 = \frac{I Z_1}{Z_1 + Z_2}$

### Source transformation



### Thevenin Equivalent

$V_T = V_{oc}$

$Z_T = Z_{eq}$

**Max. Power Transferred**

$$P_{max} = \frac{V_m^2}{8 R_T}$$