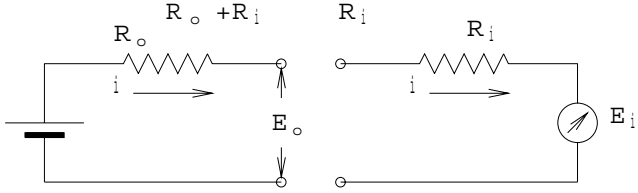
Thevenin's Theorem

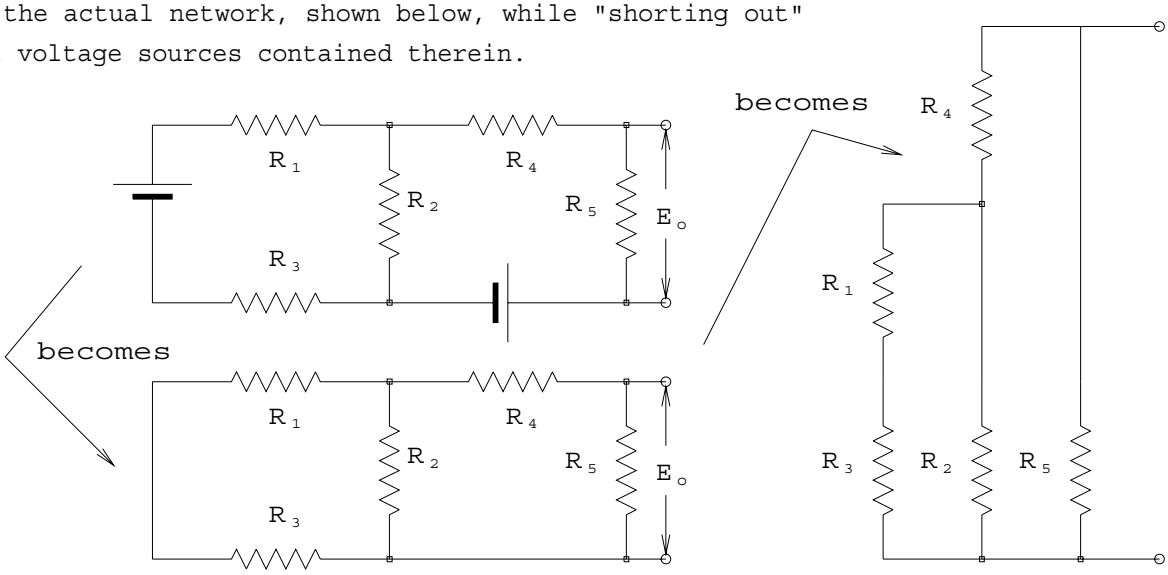
This may be summed up by the following equation. (By Ohm's law)

$$i = \frac{E_o}{R_o + R_i} = \frac{E_i}{R_i}$$



This infers that the required or desired "open circuit" (E_o)
voltage can be obtained with the instrument reading (E_i)
if one knows the output and input impedances. (R_o and R_i)
This is because the current flows in an apparent (i)
simple, single loop.

To calculate R_o add all impedances on the left, i.e.,
in the actual network, shown below, while "shorting out"
all voltage sources contained therein.



... now isn't that easy?

$$\frac{1}{\frac{1}{\frac{1}{\frac{1}{R_1 + R_3} + \frac{1}{R_2}} + R_4} + \frac{1}{R_5}} = R_o$$