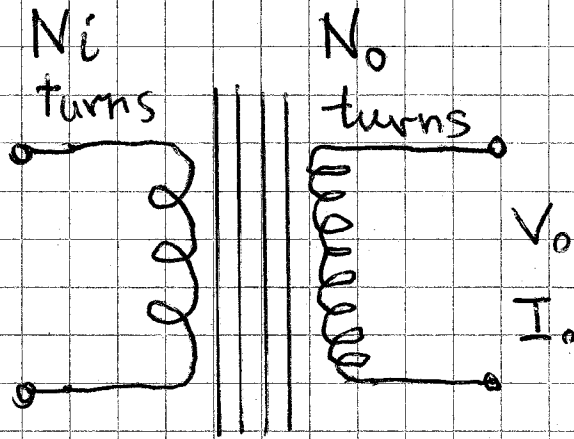


Ideal transformer (big industrial may be close

to ideals, with

the efficiency of
power transmission
 $\sim 98-99\%$

AC: V_i
 I_i



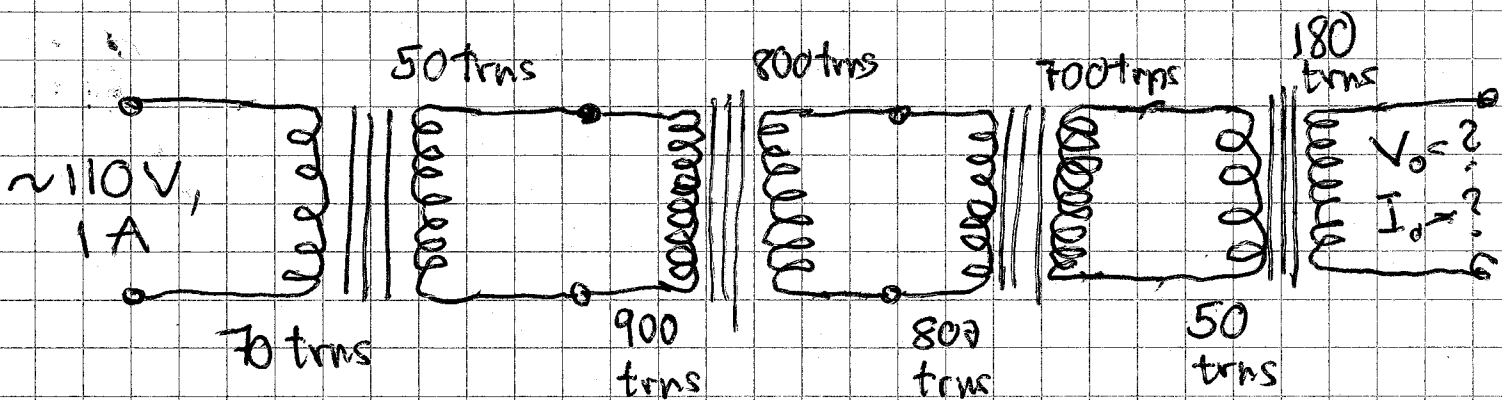
$$V_o = \frac{N_o}{N_i} \times V_i ; \text{ Ideal transformer: } P_o = P_i$$

so that $V_i \cdot I_i = V_o \cdot I_o$

Therefore:

$$\frac{V_i}{V_o} = \frac{I_o}{I_i} \text{ and } I_o = \frac{N_i}{N_o} I_i$$

Quiz 11: the "chain" of 4 transformers:



Find V_o and I_o , assuming that all four transformers are ideal.