



Here are some **transformer formulas** that may be useful.

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To better understand the following formulas review the rule of transposition in equations.

*A multiplier may be removed from one side of an equation by making it a division on the other side, or a division may be removed from one side of an equation by making it a multiplier on the other side.*

### 1. Voltage and Current: Primary (p) secondary (s)

Power(p) = power (s) or  $E_p \times I_p = E_s \times I_s$

$$A. E_p = \frac{E_s \times I_s}{I_p} \quad B. I_p = \frac{E_s \times I_s}{E_p}$$

$$C. I_s = \frac{E_p \times I_p}{E_s} \quad D. E_s = \frac{E_p \times I_p}{I_s}$$

### 2. Voltage and Turns in Coil:

Voltage (p) x Turns (s) = Voltage (s) x Turns (p)  
or  $E_p \times T_s = E_s \times T_p$

$$A. E_p = \frac{E_s \times T_p}{T_s} \quad B. T_s = \frac{E_s \times T_p}{E_p}$$

$$C. T_p = \frac{E_p \times T_s}{E_s} \quad D. E_s = \frac{E_p \times T_s}{T_p}$$

**3. Amperes and Turns in Coil:**  
Amperes (p) x Turns (p) = Amperes (s) x Turns (s)  
or  $I_p \times T_p = I_s \times T_s$

**A.**  $I_p = \frac{I_s \times T_s}{T_p}$     **B.**  $T_p = \frac{I_s \times T_s}{I_p}$

**C.**  $T_s = \frac{I_p \times T_p}{I_s}$     **D.**  $I_s = \frac{I_p \times T_p}{T_s}$

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For more Transformer Information Check out [Useful Information.](#)

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 [Check out these Online Calculators!](#)

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If there is anything you would like to add or if you have any comments please feel free to [email E.T.E.](#)

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**1997, Electricians Toolbox Etc...**



Information found here was excerpted from *Electrical motor Controls*  
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