Sýnidæmi einfasa spennir

$S = 5\,kVA$
$U_1 = 230V$
$U_2 = 12V$
$\eta = 0{,}85$

1) Reikna breytihlutfall u

$$u = \frac{U_1}{U_2} = \frac{230V}{12V} = 19{,}17$$

2) Reiknatu N_1 ef at $N_2 = 200$

$$u = \frac{N_1}{N_2} \Rightarrow N_1 = u \cdot N_2 = 19{,}17 \cdot 200 = 3834 \text{ vindingar}$$

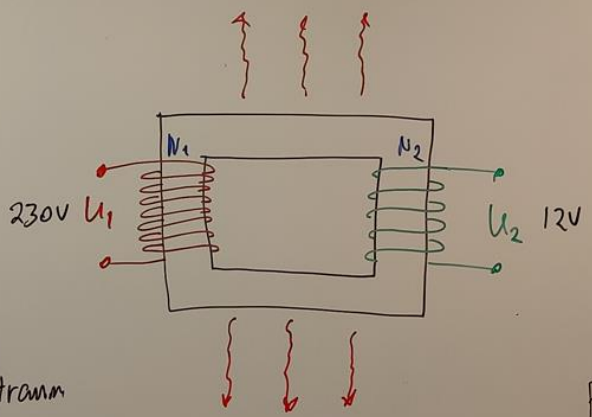
3) Reiknatu málstraum á eftirvafi

$$I_2 = \frac{S_2}{U_2} = \frac{5 \cdot 10^3 VA}{12V} = 416{,}7A$$

4) Reiknaðu málstraum á forvafi.

$$S_1 = \frac{S_2}{\eta} = \frac{5 \cdot 10^3 VA}{0{,}85} = 5882VA$$

$$I_1 = \frac{S_1}{U_1} = \frac{5882VA}{230V} = 25{,}6A$$



$\eta = 0{,}85$

$S = 5\,kVA$

$$\eta = \frac{P_2}{P_1}$$

$$u = \frac{U_1}{U_2} = \frac{N_1}{N_2}$$

Ef $\cos\varphi = 1$ þá er $\eta = \frac{S_2}{S_1}$