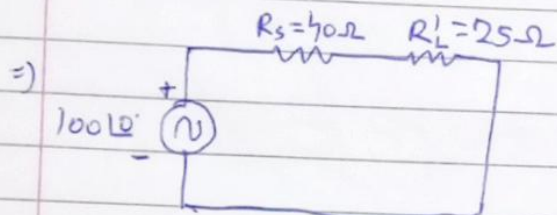


$$\frac{N_1}{N_2} = \frac{1}{4}$$

$$R'_L = \left( \frac{N_1}{N_2} \right)^2 R_L$$

$$R'_L = \frac{1}{16} \times 400$$

$$\therefore R'_L = 25 \Omega$$



$$I_1 = \frac{100 \angle 0^\circ}{65} = 1.538 \angle 0^\circ \text{ A}$$

$$\frac{N_1}{N_2} = \frac{I_2}{I_1} \quad \therefore I_2 = \frac{1.538 \angle 0^\circ}{4}$$

$$\Rightarrow I_2 = 0.3846 \angle 0^\circ \text{ A}$$

$$V_2 = I_2 R_L$$

$$= 0.3846 \angle 0^\circ \times 400$$

$$\Rightarrow V_2 = 153.8 \angle 0^\circ$$

$$P_L = (I_{2_{\text{RMS}}})^2 R_L$$

$$= \left( \frac{0.3846}{\sqrt{2}} \right)^2 \times 400$$

$$P_L = 29.60 \text{ W}$$