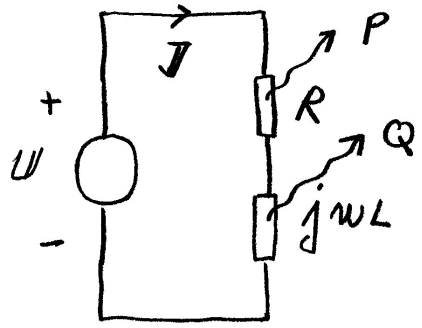

$$P = RJ^2 \quad \ldots (1)$$

$$Q = \omega L J^2 \quad \ldots (2)$$

$$S = \sqrt{P^2 + Q^2} \quad \ldots (3)$$

$$\hat{J} = |\mathbb{J}| = \left| \frac{U}{R + j\omega L} \right| =$$

$$= \frac{100\sqrt{2}}{\sqrt{4^2 + 3^2}} = 20\sqrt{2} \ A$$

$$J = \frac{\hat{J}}{\sqrt{2}} \rightarrow J = 20 \ A$$

$(1) \rightarrow P = 4 \cdot 20^2 = \underline{1600 \ W}$

$(2) \rightarrow Q = 3 \cdot 20^2 = \underline{1200 \ VAr}$

$(3) \rightarrow S = \sqrt{1600^2 + 1200^2} = \underline{2000 \ VA}$

ALTERNATIV LÖSNING

$S = U \cdot J = 100 \cdot 20 = 2000 \ VA$

$P = U \cdot J \cdot \cos\varphi$

$Q = U \cdot J \cdot \sin\varphi$

$\varphi = \arg(R + j\omega L) = \arctan\frac{\omega L}{R} \approx 37°$

$\Rightarrow P = 1600 \ W \quad Q = 1200 \ VAr$