

B1.11

$$I_1 = \frac{E}{j\omega L} \Rightarrow$$

$$\arg I_1 = \arg E - \arg(j\omega L) = -90^\circ$$

$$I_2 = \frac{E}{R + \frac{1}{j\omega C}} \Rightarrow$$

$$\arg I_2 = \arg E - \arg\left(R + \frac{1}{j\omega C}\right) = 45^\circ$$

$$I_1 = \hat{I}_1 \cdot e^{j\arg I_1} = 0,5\sqrt{2} \cdot e^{-j90^\circ} \text{ A} = -j0,5\sqrt{2} \text{ A}$$

$$I_2 = \hat{I}_2 \cdot e^{j\arg I_2} = 1,0\sqrt{2} \cdot e^{j45^\circ} \text{ A} = 1,0 + j \text{ A}$$

$$I = I_1 + I_2 = 1,0 + j0,29 \text{ A} = 0,74\sqrt{2} \cdot e^{j16,3^\circ} \text{ A} \Rightarrow$$

$$i(t) = 0,74\sqrt{2} \sin(1000t + 16,3^\circ) \text{ A}$$