Nhat Ho
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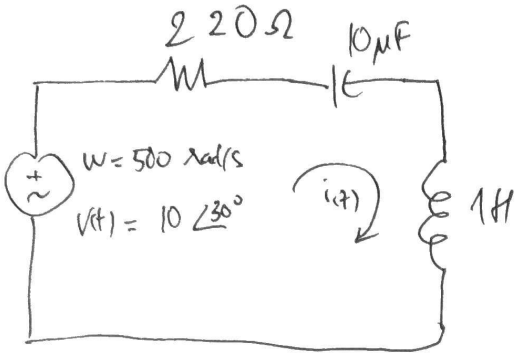

We have: $Z_C = \frac{-j}{\omega C} = \frac{-j}{500 \times 10 \times 10^{-6}} = -200j\ (\Omega)$

$$Z_L = j\omega L = j \times 500 \times 1 = 500j\ (\Omega)$$

$$\Rightarrow Z_{total} = R + Z_C + Z_L = 220 + 500j - 200j$$

$$\Rightarrow Z_{total} = 220 + 300j\ (\Omega)$$

$$\Rightarrow i(t) = \frac{v(t)}{Z_{total}} = \frac{10\angle 30^\circ}{220 + j300} = 0.0246 - j0.011\ (A)$$

$$= 0.027 \angle -23.75^\circ$$

$$\left(i(t) = \frac{10\angle 30^\circ}{220 + j300} = \frac{10\angle 30^\circ}{372.02\angle 53.75^\circ} = 0.027\angle -23.75^\circ \right)$$

$$\Rightarrow \boxed{\begin{aligned} i(t) &= 0.0246 - j\,0.011\ (A) \\ &= 0.027 \angle -23.75^\circ\ (A) \end{aligned}}$$