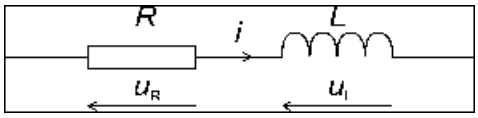
Rozwiązanie przy użyciu Mathcad'a

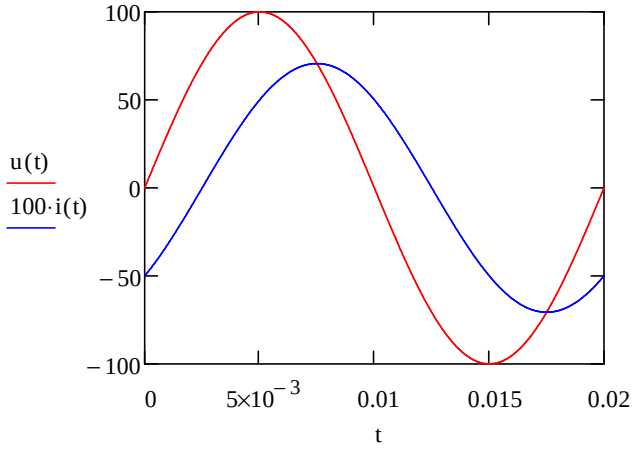
$U\_m := 100V \quad f := 50 \cdot Hz \quad \omega := 2 \cdot \pi \cdot f = 314.159 \frac{1}{s} \quad \psi := 0 \cdot rad$

$R := 100 \cdot \Omega \quad L := 319 \cdot mH \quad \omega \cdot L = 100.217\,\Omega \quad T := \frac{2 \cdot \pi}{\omega} = 0.02\,s$



$u(t) := U\_m \cdot \sin(\omega \cdot t + \psi) \quad \phi := \operatorname{atan}\left(\frac{\omega \cdot L}{R}\right) \quad I\_m := \frac{U\_m}{\sqrt{R^2 + (\omega \cdot L)^2}}$

$i(t) := I\_m \cdot \sin(\omega \cdot t + \psi - \phi) \quad p(t) := u(t) \cdot i(t) \quad P := \frac{1}{T} \cdot \int_0^T p(t)\,dt = 24.946\,W$



$P := \frac{U\_m \cdot I\_m}{2} \cdot \cos(\phi) = 24.946\,W$

$Uzesp := \frac{U\_m}{\sqrt{2}} \cdot \exp(j \cdot \psi) = 70.711\,V \quad Izesp := \frac{Uzesp}{R + j \cdot \omega \cdot L} = (0.353 - 0.354j)\,A$

$u(t) := \sqrt{2} \cdot \mathrm{Im}(Uzesp \cdot \exp(j \cdot \omega \cdot t)) \quad i(t) := \sqrt{2} \cdot \mathrm{Im}(Izesp \cdot \exp(j \cdot \omega \cdot t))$

$P := \mathrm{Re}\left(Uzesp \cdot \overline{Izesp}\right) = 24.946\,W$