

C1 25 Maggio 2011

1/3

Es. 1 $V_{eq} = \frac{1}{5} R$; $R_{eq} = \frac{6}{5} R$

Es. 4 $P_{ob} = 4400 \text{ W}$ $Q_{ob} = 5200 \text{ VAR}$

$C_{reif} = 828 \mu\text{F}$.

Es. 5 $P = 1250 \text{ W}$ $Q = -1250 \text{ VAR}$

$P_{MAX} = 3018 \text{ Watt}$; $P_{MIN} = -518 \text{ Watt}$.

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Es. 1
$$\begin{cases} i(t) = k_1 e^{-t} + k_2 e^{-3t} + 2, & t \geq 0 \\ i(0^+) = 2 \text{ A} \\ \frac{d}{dt} i(0^+) = \frac{3}{2} \text{ A/sec} \end{cases}$$

 Ampere

$$i(t) = \frac{3}{4} e^{-t} - \frac{3}{4} e^{-3t} + 2, \quad t \geq 0$$

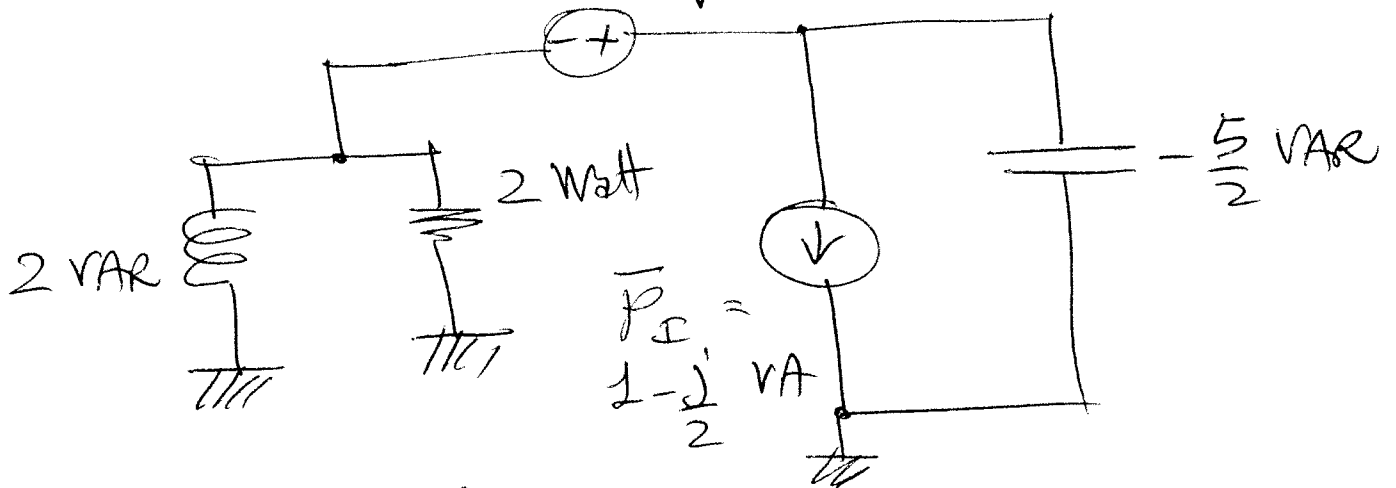
Es. 3
$$Z = \begin{pmatrix} R & \frac{R}{2} \\ R & \frac{3R}{2} \end{pmatrix}$$

Ex. 1 $R_{eq} = \frac{3}{2} R$; $V_{eq} = E$.

Ex. 4 $P_{ob} = 3700 \text{ Watt}$
 $Q_{ob} = 2400 \text{ VAR}$

$$X_{enf} = \frac{1}{\omega C_{enf}} = 16.2 \Omega.$$

Ex. 5 $\overline{P}_V = 1 \text{ VA}$



Ex. 1 $i(t) = k_1 e^{-2t} \cos(t) + k_2 e^{-2t} \sin(t) + 2, t \geq 0$
Lösung

$$\begin{cases} i(0+) = 1 \text{ A} \\ \frac{d}{dt} i(0+) = \frac{5}{4} \text{ A/sec.} \end{cases}$$

$\Rightarrow i(t) = -e^{-2t} \cos(t) - \frac{9}{8} e^{-2t} \sin(t) + 2, t \geq 0$
Lösung.