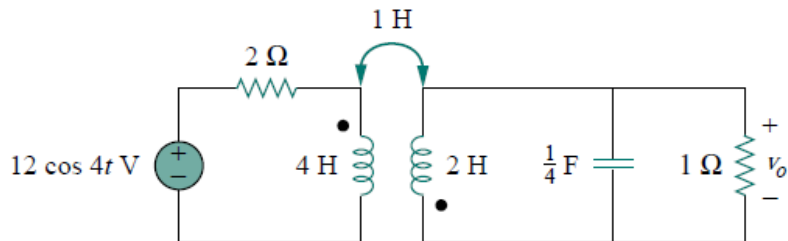


Lista Exercícios 5 – Eletricidade Aplicada

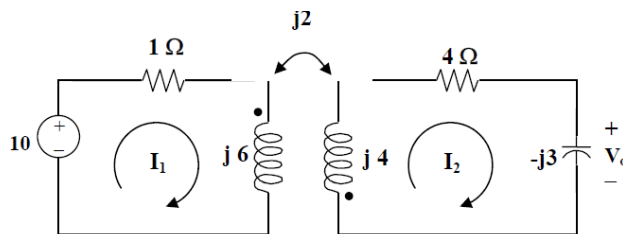
1) No circuito ao lado:

- Determine o coeficiente de acoplamento
- Calcule v_o .



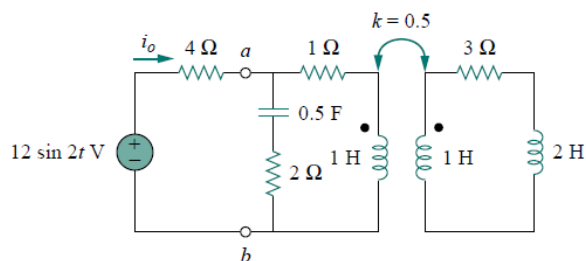
2) Calcule v_o no circuito ao lado.

RESP: $V_o = 2,4 \angle 95^\circ$

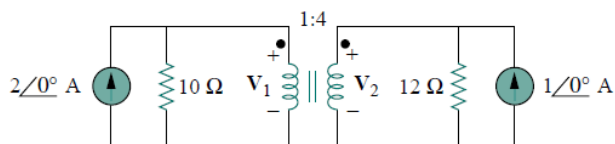


3) Determine Z_{ab} e i_o para o circuito ao lado:

RESP: $Z_{ab} = 1.5085 \angle 17.9^\circ$ ohms



4) Obtenha V_1 e V_2 do circuito:

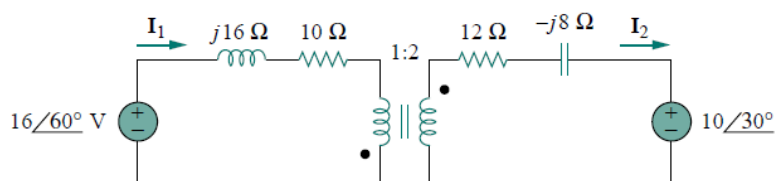


RESP:

$v_1 = 4.186$ V

$v_2 = 16.744$ V

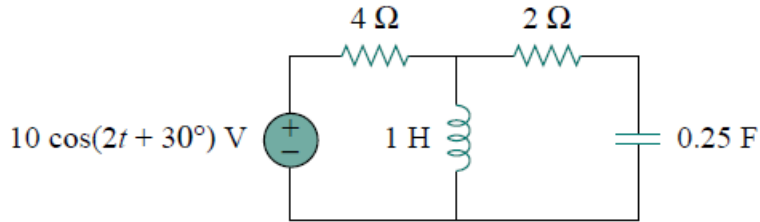
5) Encontre a impedância de entrada e I_1 , no circuito abaixo:



$Z = 13 + j14 \Omega$

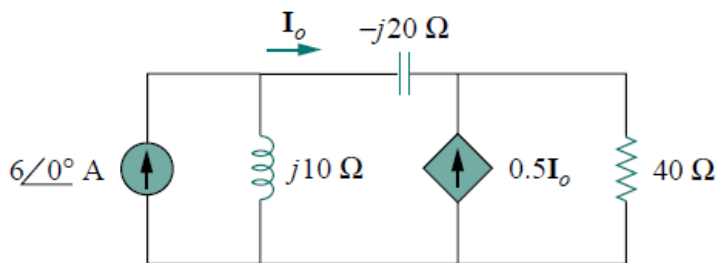
$I_1 = 1.072 \angle 5.88^\circ$ A,

6) Encontre a potência média absorvida por cada elemento do circuito.



Resp: fonte: 7,5W, indutor:0 W, capacitor: 0 W, resistor de 4Ω: 5W, resistor de 2Ω: 2,5W .

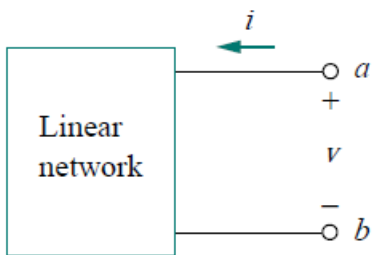
7) Encontre a potência dissipada no resistor de 40Ω, do circuito abaixo:



resp: 43,8 W

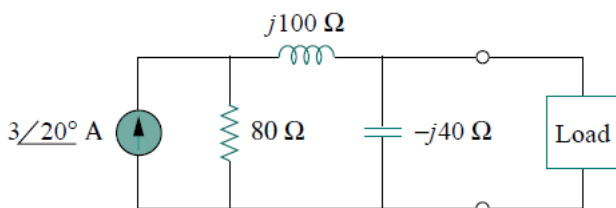
8) Para o circuito linear da figura abaixo, encontre a potência média total absorvida pelo circuito sabendo que:

$$Z_{ab} = \frac{R}{\sqrt{1 + \omega^2 R^2 C^2}} \angle -\tan^{-1} \omega RC \quad \text{em que : } R = 10 \text{ k}\Omega, C = 200 \text{ nF}, i = 2\text{sen}(377t + 22^\circ)\text{mA}.$$



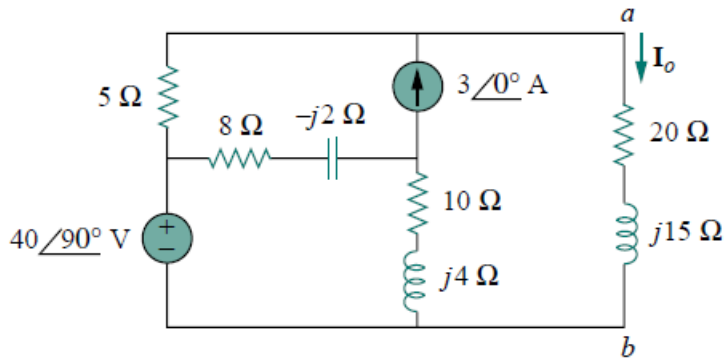
resp: 10,181 mW

9) Para o circuito, encontre:



- a) o valor da impedância da carga (Load) que absorve o máximo de potência. **RESP: $51,2 + j1,6 \Omega$.**
 b) o valor da potência média máxima absorvida. **RESP: 22,5 W.**

10) Obtenha I_o , através do teorema de Norton.



RESP: $I_o = 1,45 \angle 38^\circ \text{ A}$.