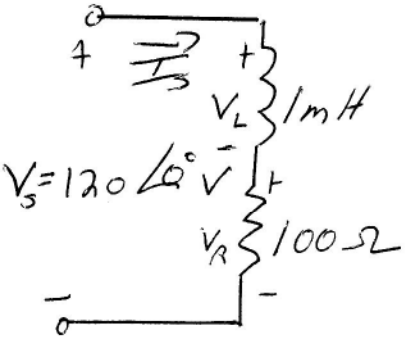
Worksheet

Short Answer Questions



$f = 5000\,Hz$

(1) Find the power delivered to the total impedance using V_S & I_S and $P = VI\cos\theta$.

(2) Find the power delivered to the resistor using V_R and I_R

$P = VI\cos\theta$.

(3) Find the power delivered to the inductor using V_L and I_L

$P = VI\cos\theta$.

(4) Repeat (1) to (3) for reactive power, using $Q = VI\sin\theta$

(5) Repeat (1) to (3) for apparent power using $S = VI$.

(1) Given the circuit below find

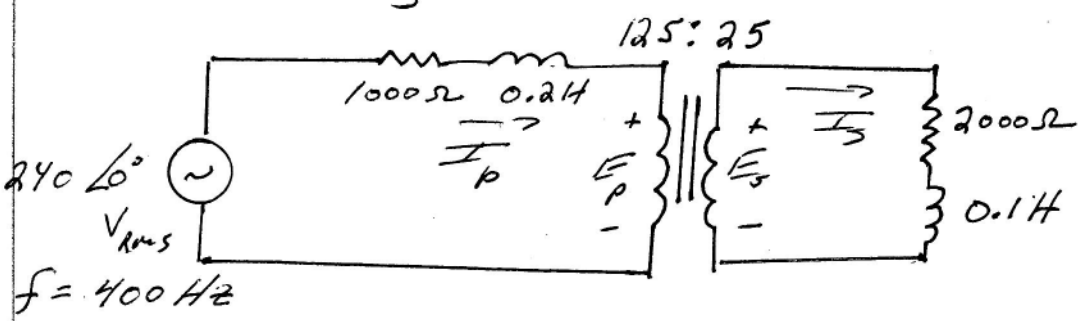
(a) Z_{TOTAL}

(b) I_p

(c) I_s

(d) E_p

(e) E_s



(f) For the circuit above, replace the load with a new load that will achieve maximum power transfer to the load.

(2) A Y-Δ system where $E_{AN} = 200\angle 0^\circ V$ has a balanced load where $Z = 9 + 3j\ \Omega$

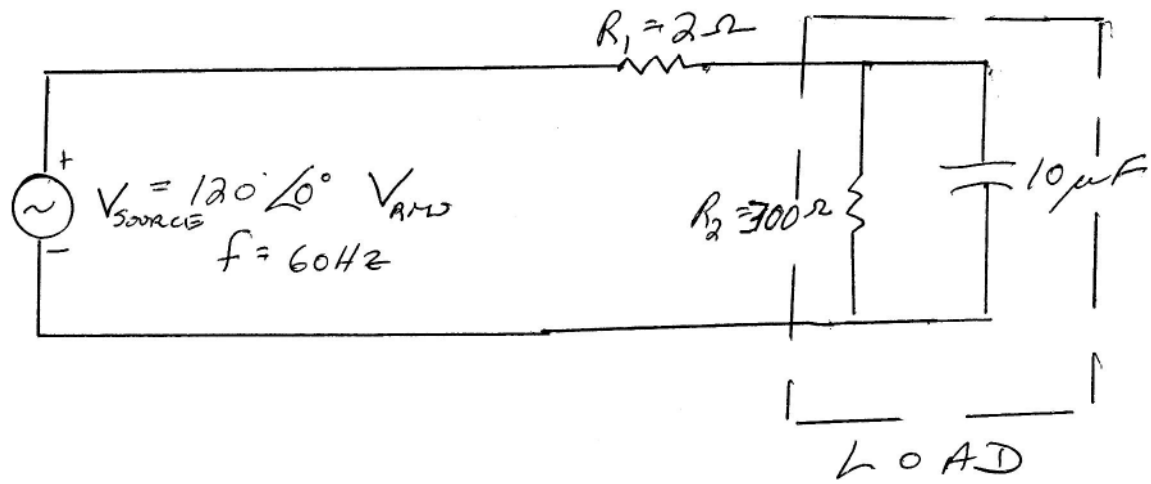
Find: I_{LINE}, $I_{\phi_{LOAD}}$, P_T, Q_T and S_T.
Draw the power triangle.

(3)

(a) Find the apparent power, average power, and reactive power delivered to the load.

(b) What is the power factor, F_p? Is it leading or lagging?

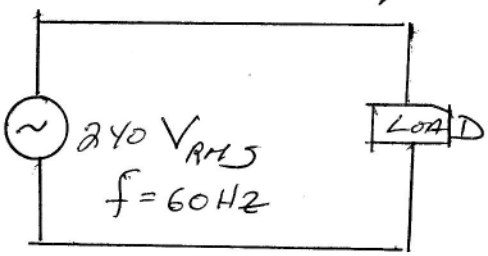
(c) Draw the power triangle.



42-381 50 SHEETS EYE-EASE 5 SQUARE
42-382 100 SHEETS EYE-EASE 5 SQUARE
42-389 200 SHEETS EYE-EASE 5 SQUARE
National Brand

(4)

If $P_{LOAD} = 1000\,W$ with $F_p = 0.8$ lagging. Correct the power factor so that $F_p = 1$



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