Engr M20 HW #11

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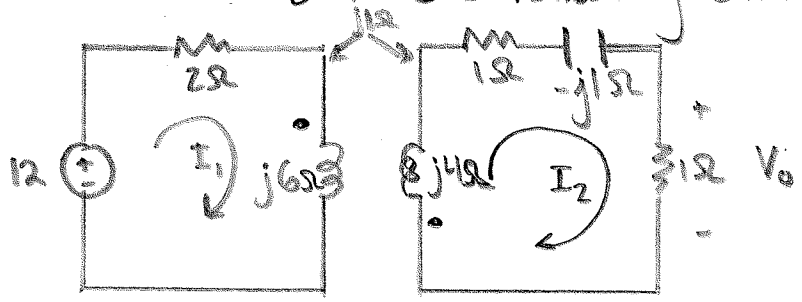
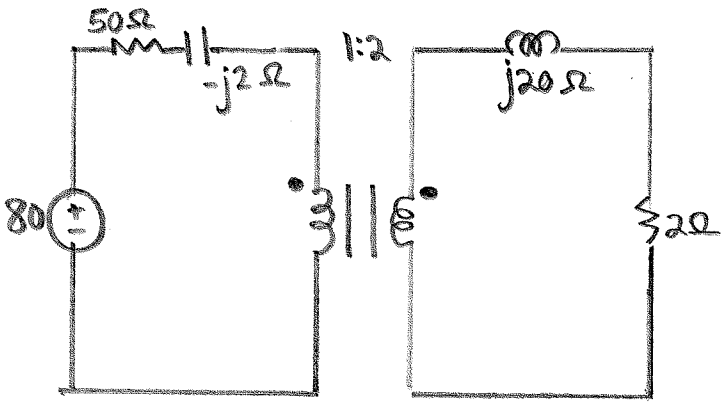
1) Determine V_o in the following circuit:



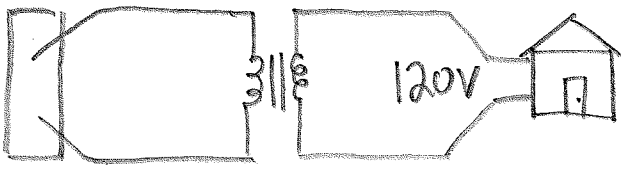
2) Find the power absorbed by the 2Ω resistor in the following ckt:



3) The three-phase system of a town distributes power with a line voltage of 13.2 kV. A pole transformer connected to single wire and ground steps down the high voltage wire to 120 V_{rms} and serves the house as shown below.

a) Calculate the turns ratio of the pole transformer to get 120V.

b) Determine how much current a 100-W lamp connected to the 120-V hot line draws from the high voltage line.



4) A 4800-V_{rms} transmission line feeds a distribution transformer with 1200 turns on the primary and 28 turns on the secondary. When a 10-Ω load is connected across the secondary, find:

a) the secondary voltage

b) the primary and secondary currents

c) the power supplied to the load