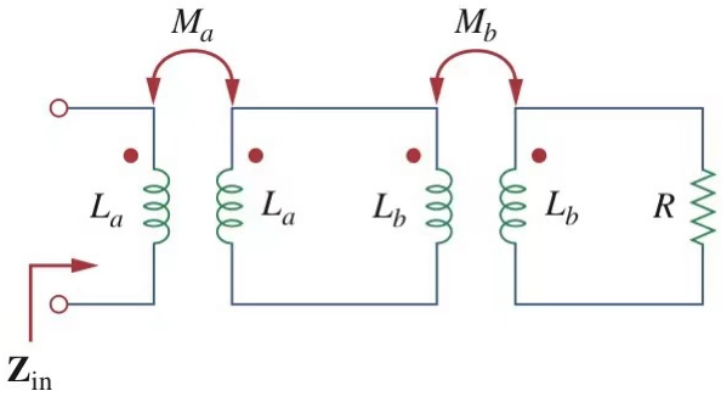
VE215 2022Fall Assignment 7

Due Date: 23:59, Dec.7th, 2022

In order to get full marks, you shall write all the intermediate steps of calculation or proof unless otherwise indicated.

Exercise 7.1 (35%)
(a) (15%) A 480/2400-V rms step-up ideal transformer delivers 60 kW to a resistive load. Calculate: (1) the turns ratio (2) the primary current (3) the secondary current

(b) (20%) Two linear transformers are cascaded as shown below. Calculate Z_{in}.



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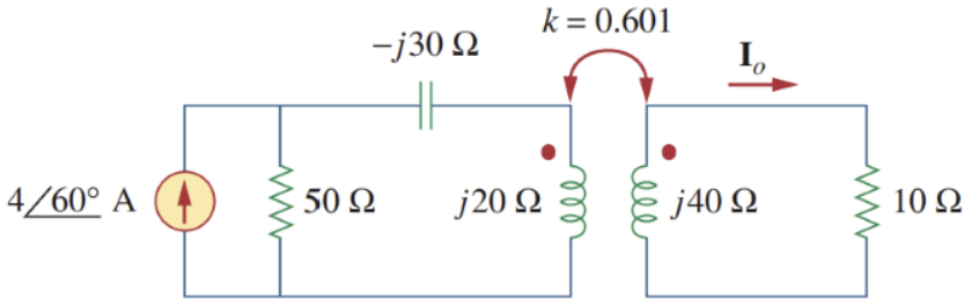
Exercise 7.2 (25%)
Find current I_0 in the circuit.



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Exercise 7.3 (40%)
For the ideal transformer circuit below, find:
(a) I_1 and I_2
(b) V_1 and V_2
(c) the complex power supplied by the source