EE4226 - EXPERIMENT #3

IDEAL SINGLE PHASE TRANSFORMERS

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Date: 2/14/2018 Lab Partners: Mitch Manford

Part 1:

3. Resistance H_1 - H_3 .588 Resistance X_1 - X_2 0.451

High Voltage Coil H

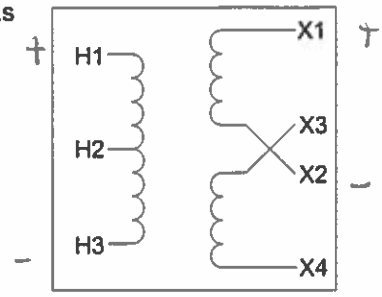
Low Voltage Coil V

Part 2:

5. Voltage H_1 - H_3 119.3 Voltage X_1 - H_3 188.12

7. Voltage H_1 - H_3 120.26 Voltage X_2 - H_3 50.84

8. Draw the polarity marks



Part 3:

10. Voltage H_1 - H_3 208.2 Voltage $X_1 - X_4$ 239.8

11. Voltage H_1 - H_3 208.4 Voltage X_1 - X_3 0.1525

Part 4:

14. V_{in} 150.1 I_{in} 1.0A $R_{measured}$ 49.98

V_{out} 85.77 I_{out} 1.7A $R_{calculated}$

I_{coil1} 1.0 I_{coil2} 0.4A

Part 5:

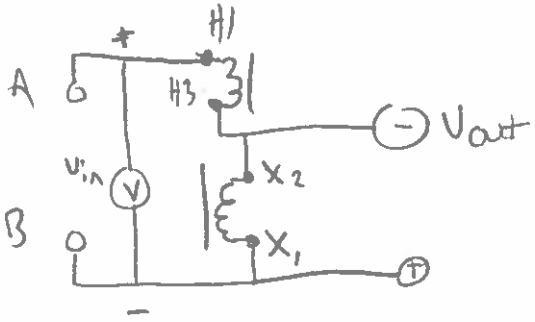
18. Voltage H_1 - X_2 197.9 Voltage H_1 - H_3 127.8

Voltage X_1 - X_2 68.65 Load Current 4.25

Current H_1 - H_3 3.8A Current X_1 - X_2 6.1A

Part 6:

20. Sketch your circuit below:



Voltage H_1 - H_3 207 Voltage X_1 – X_2 119.21

V_{IN} 88.3 V_{OUT} 119.21