ECE 331 - Homework #3

Chapter 3: Transformer Principles

1) Assume a 2400V/240V auto-transformer is delivering power to a 10kVA load with a power factor of 1.0. Compute the current in each section of the autotransformer.

2) Design a 2400V/240V 150kVA autotransformer.

3) Use three ideal 2400V-240V single phase transformers in a delta configuration to deliver 3-phase power to three 10kVA loads with a power factor of 0.9 lagging. Compute the current and power from each trasformer.

4) Remove one transformer in problem 3 to create a V configuration. Compute the current and power from each transformer.

Lab #1:   Last Names L-Z this week. Last Names A-K was last week.   (There are too many people taking this class for the lab, so we need to do the lab over two weeks: half doing the lab this week, half doint it next week. Turn in the lab with your homework set (no lab write up.)

(30 pt) Find the parameters for the an actual transformer using a short-circuit and open-circui test.

BONUS! What is a breeder reactor?