

# ECE 330 HW 4

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*In class quiz Fri, Sept 28.*

*Copies of the textbook are kept at the Grainger Engineering Library Reserve*

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**Textbook problem 3.10 (part a and b only)** (partial answer:  $20A$ ,  $12\Omega$ )

**Textbook problem 3.12 (Use figure 3.32 in the book for reference)**

**Textbook problem 3.14**

**Textbook problem 3.17**

## **Special Problem #1**

A  $480/240V$ ,  $4.8kVA$ ,  $60Hz$ , single-phase transformer is used to supply a  $4.8kVA$  load with a 0.8 lagging power factor, at rated voltage ( $240V$ )

1. If the transformer were ideal, what would be the magnitude of the current on the primary ( $480V$ ) side? (Answer:  $10A$ )
2. What is the impedance of the load under the ideal assumption?
3. Again, if the transformer is ideal, what would the impedance be as viewed from the primary side? (Answer:  $38.4 + j28.8\Omega$ ).