

ECE 330 HW 4

In class quiz Fri, Feb 15.

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

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

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: $38.4 + j28.8\Omega$).