

ELEC-E8422 An Introduction to Electric Energy

Homework 1 - Lecture 1 AC circuits

The voltage over an electric load and the current through it are

$$v = 340\sin(628.318t + 0.5236) \text{ V}$$

$$i = 100\sin(628.318t - 0.87366) \text{ A}$$

Calculate

1. The real mean square (rms) values of the source voltage and load current
2. The frequency of the load current
3. The impedance of the load
4. The active and reactive power drawn by the load