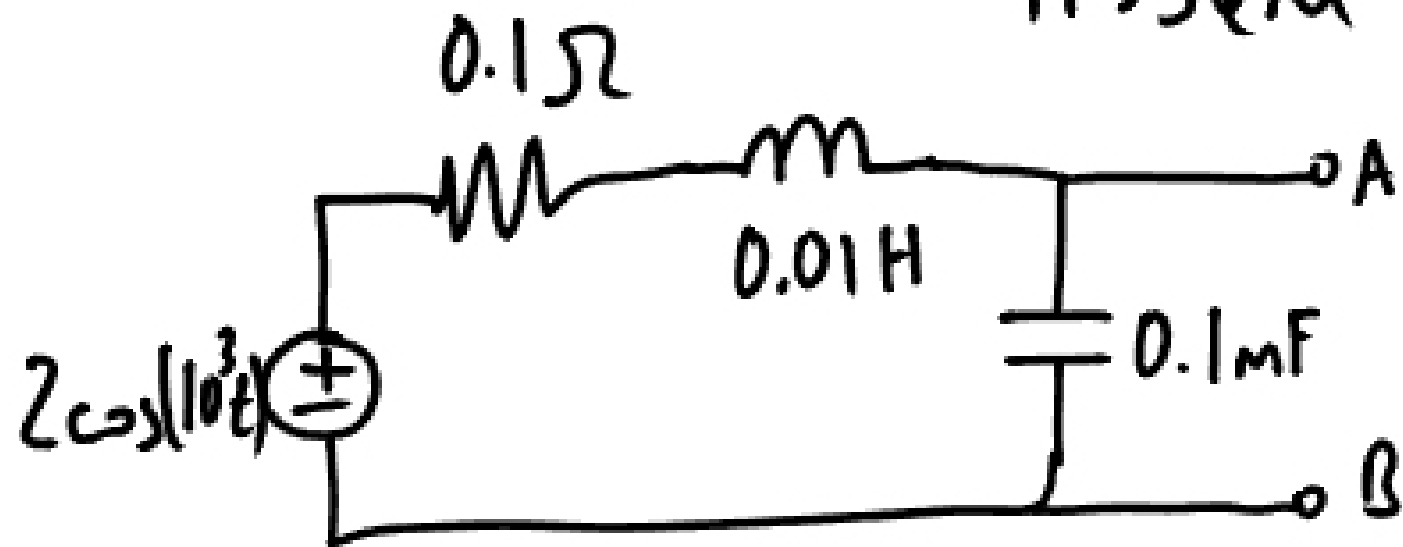


ECE 201: Lecture 31

Borja Peleato

- Sinusoidal Steady State problems

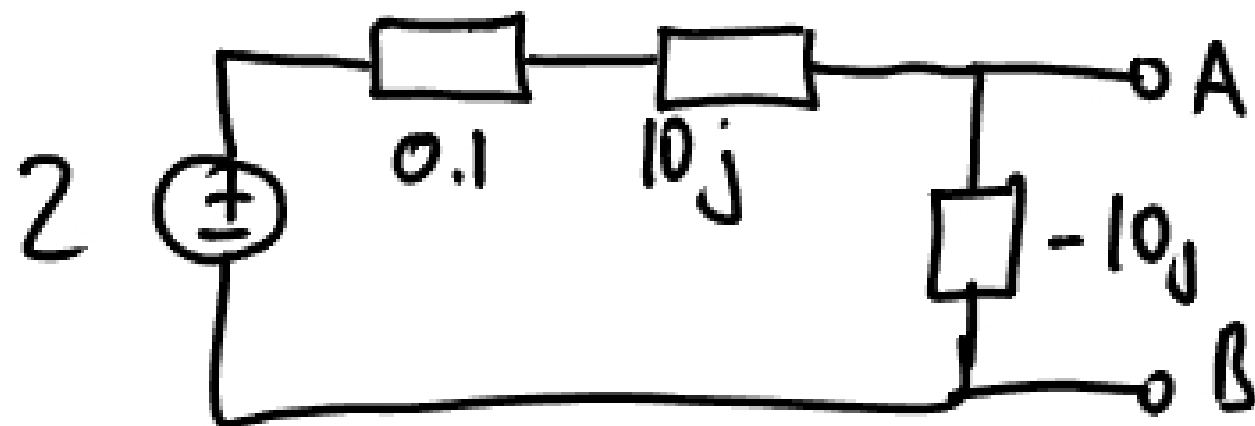
Problem 1



Find Thevenin equivalent with respect to AB in the phasor domain.

Solution:

First transform everything to phasor domain



Now find \tilde{V}_{TH} as the voltage in open circuit.

By the voltage division formula

$$\boxed{\tilde{V}_{TH} = \tilde{V}_{AB} = 2 \cdot \frac{-10j}{0.1 + 10j - 10j} = \frac{20 e^{-j90}}{0.1} = \boxed{-200j}}$$

Then we deactivate indep sources and find the equivalent impedance. In this case we do not need to apply a test source:

