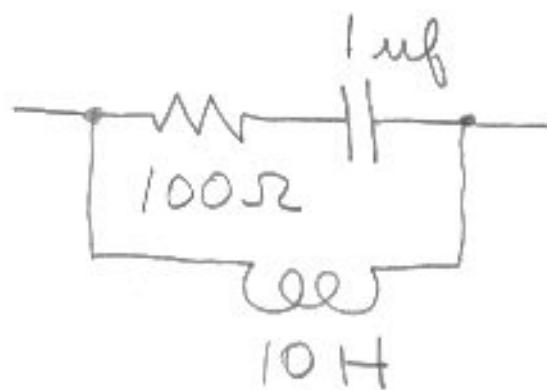


Homework 5 - B10E 1410

① consider this circuit



Ⓐ Develop an expression for the complex impedance

Ⓑ Draw a Bode plot of the magnitude and phase

Ⓒ State the impedance at $\omega=0$ and $\omega=\infty$ and explain in term of the circuit components.

② What is the Fourier Transform

of Ⓐ $x(t) = 2 - e^{-3t} u(t) + \delta(t)$

Ⓑ $x(t) = -3e^{-2|t|}$ ← hint: integrate sections of t separately

③ Look at and understand all of the Fourier Transform + Complex Impedance examples on the website.