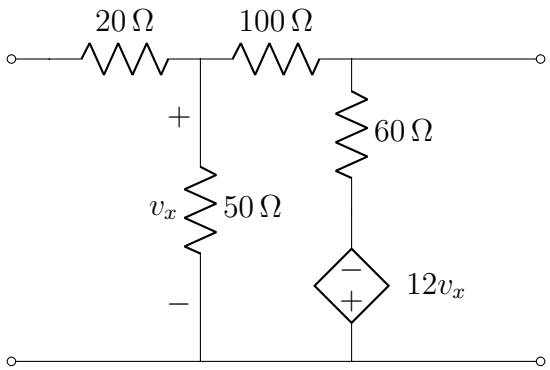
PH3104 Problem Set 3

Q 1) In lecture 4 we discussed the derivation of h parameter equivalents from the Z parameter equivalents of a two port network. As you may have guessed, we could also have found them by solving the linear equations underlying the equivalent circuits. Use this to derive the expressions as well as the inverse ones (Z parameters from h parameters)

Q 2) Express the Y parameters of a two-port network in terms of its Z parameters (use the equivalent circuits - not the equations).

Q 3) Find the Z-parameter equivalents for the following network



Use this to determine the current through a 10 Ω resistor if it is connected across the right hand port and a 1 V battery with an internal resistance of 1 Ω is connected across the left hand port.

What will the current be if the battery and the 10 Ω resistance is interchanged?

Q 4) What is the connection between the Z-parameters for a circuit that can be depicted by the "T" network shown below?