

Special Problem 4.2-6

Consider a **three-port** network with **impedance** matrix:

$$\mathbf{Z} = \begin{bmatrix} 1 & 3 & j3 \\ 3 & j2 & 4 \\ j3 & 4 & -j \end{bmatrix} \Omega$$

A **current source** is attached to port 1, an impedance Z_{L2} to port 2, and an **open circuit** to port 3.

The voltage across Z_{L2} is known to be $V_2 = j12.0 \text{ V}$

Determine the value of impedance Z_{L2} .

