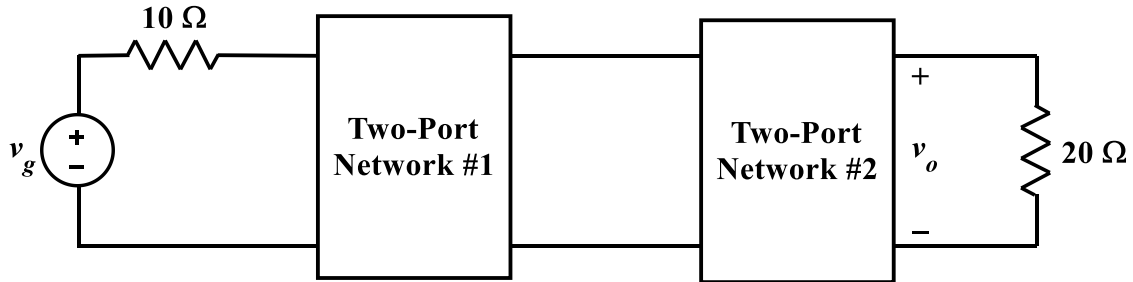
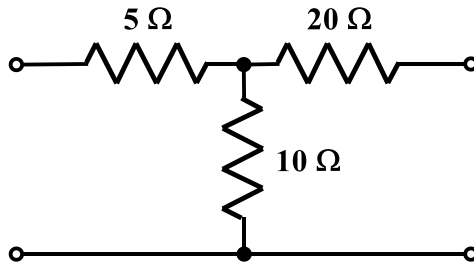


Homework Problem #21

Consider two cascaded two-port networks:



(a) If Network #1 is the T-Network shown below:



determine the transmission parameters of Network #1.

(a) If Network #2 is described by the impedance parameters:

$$\mathbf{Z} = \begin{bmatrix} 10\ \Omega & 4\ \Omega \\ 4\ \Omega & 8\ \Omega \end{bmatrix},$$

determine the overall relationship between v_o and v_g , i.e., $v_o = f(v_g)$.

(b) If $v_g = 10\ \text{V}$, determine v_o and the amount of power delivered to the $20\ \Omega$ load resistor.