Tutorial 12

Q.1.

Obtain a complete set of **y** parameters which describe the two-port shown in Fig. 17.40.

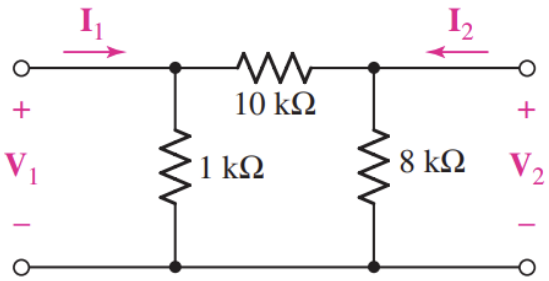

FIGURE 17.40

Q.2.

(*a*) Determine the short-circuit admittance parameters which completely describe the two-port network of Fig. 17.41. (*b*) If $\mathbf{V}_1 = 3$ V and $\mathbf{V}_2 = -2$ V, use your answer in part (*a*) to compute $\mathbf{I}_1$ and $\mathbf{I}_2$.

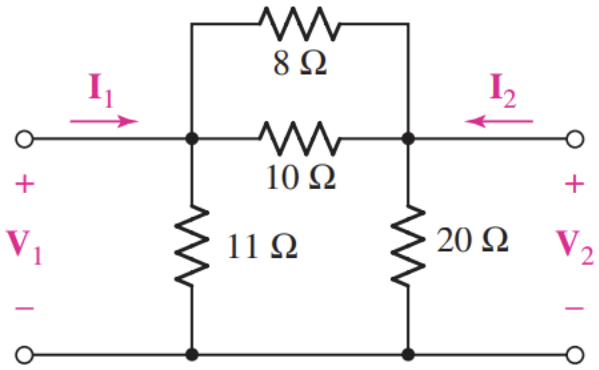

FIGURE 17.41

Q.3.

Employ an appropriate method to obtain **y** for the network of Fig. 17.47.

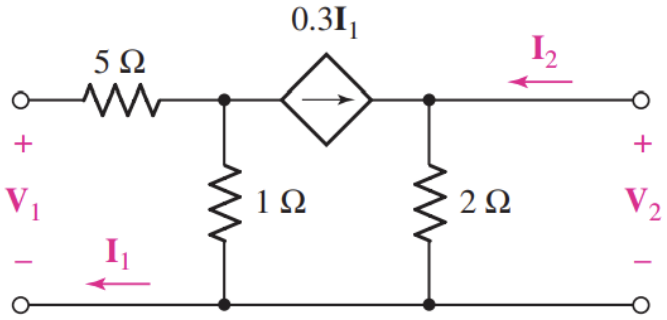

FIGURE 17.47

Q.4.

Convert the following **z** parameters to **y** parameters, or vice versa, as appropriate:

$$\mathbf{z} = \begin{bmatrix} 2 & 3 \\ 5 & 1 \end{bmatrix} \Omega \qquad \mathbf{z} = \begin{bmatrix} 1000 & 470 \\ 2500 & 900 \end{bmatrix} \Omega$$

$$\mathbf{y} = \begin{bmatrix} 0.001 & 0.005 \\ 0.006 & 0.03 \end{bmatrix} \text{S} \qquad \mathbf{y} = \begin{bmatrix} 1 & 2 \\ -1 & 3 \end{bmatrix} \text{S}$$

Q.5.

Determine the impedance parameters for the two-port exhibited in Fig. 17.58.

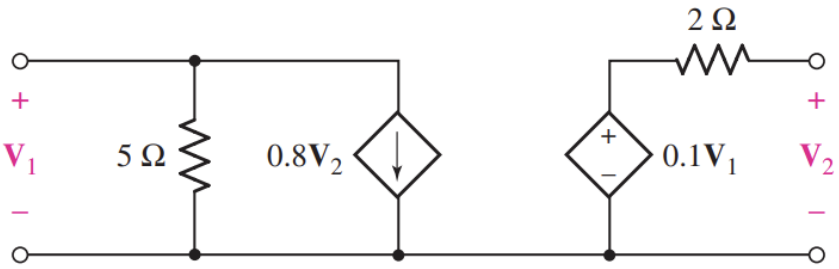

FIGURE 17.58

Q.6.

Obtain the **h** parameters of the two-ports of Fig. 17.61.

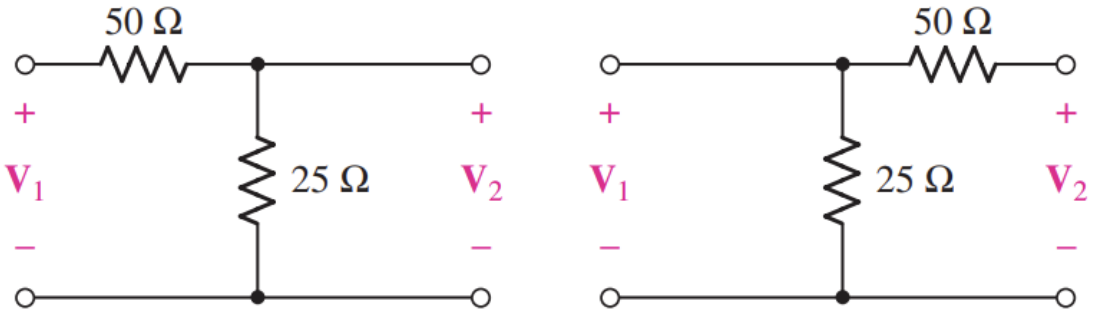

FIGURE 17.61