Chapter 9, Solution 64.

Find $\mathbf{Z}_T$ and **I** in the circuit shown in Fig. 9.71.

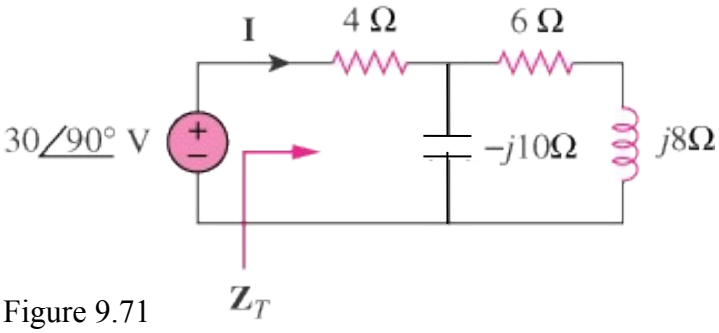

Figure 9.71
For Prob. 9.64.

Solution

$$Z_T = 4 + \frac{-j10(6 + j8)}{6 - j2} = \underline{19 - j5\Omega}$$

$$I = \frac{30\angle 90°}{Z_T} = -0.3866 + j1.4767 = \underline{1.527\angle 104.7° \text{ A}}$$

$$Z_T = \mathbf{(19–j5)\ \Omega}$$

$$I = \mathbf{1.527\angle 104.7°\ A}$$