

Chapter 9, Solution 65.

$$\mathbf{Z}_T = 2 + (4 - j6) \parallel (3 + j4)$$

$$\mathbf{Z}_T = 2 + \frac{(4 - j6)(3 + j4)}{7 - j2}$$

$$\mathbf{Z}_T = \mathbf{6.83 + j1.094 \, \Omega} = 6.917 \angle 9.1^\circ \, \Omega$$

$$\mathbf{I} = \frac{\mathbf{V}}{\mathbf{Z}_T} = \frac{120 \angle 10^\circ}{6.917 \angle 9.1^\circ} = \mathbf{17.35 \angle 0.9^\circ \, A}$$