

Chapter 11, Solution 13.

For maximum power transfer to the load, $\mathbf{Z_L} = [120 - \mathbf{j60}] \, \Omega$.

$$I_L = 165/(240) = 0.6875 \, \text{A}$$

$$P_{\text{avg}} = [|I_L|^2 120]/2 = \mathbf{28.36 \, W}.$$