

$$\begin{aligned} 2) \quad P_1 &= 3000 \text{ W} \\ V_1 &= 240 \text{ V} \end{aligned}$$

$$\begin{aligned} \text{Find } I_1: \quad P_1 &= I_1 V_1 \\ 3000 \text{ W} &= I_1 \cdot (240 \text{ V}) \end{aligned}$$

$$I_1 = 12.5 \text{ A}$$

$$\begin{aligned} \text{Find } R_1: \quad V_1 &= I_1 R_1 \\ 240 \text{ V} &= (12.5 \text{ A}) \cdot R_1 \end{aligned}$$

$$R_1 = 19.2 \Omega$$

$$\text{Find } I_2: \quad V_2 = 120 \text{ V}$$

$$\begin{aligned} V_2 &= I_2 R_1 \\ (120 \text{ V}) &= I_2 \cdot (19.2 \Omega) \end{aligned}$$

$$I_2 = 6.25 \text{ A}$$

$$\begin{aligned} b) \quad P_2 &= I_2 V_2 \\ &= (6.25 \text{ A})(120 \text{ V}) \end{aligned}$$

$$P_2 = 750 \text{ W}$$