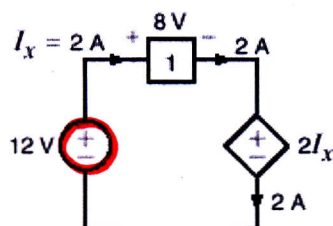
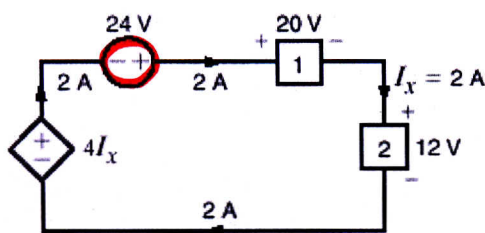


**1.30** Find the power that is absorbed or supplied by the network elements in Fig. P1.30.



(a)



(b)

**SOLUTION:**

$$\begin{aligned} a) \quad P_{12V} &= -12(2) = -24 \text{ W} \\ P_{12V} &= 24 \text{ W supplied} \end{aligned}$$

$$\begin{aligned} P_1 &= 8(2) = 16 \text{ W absorbed} \\ P_2 &= 2I_x(2) = 2(2)(2) \\ P_2 &= 8 \text{ W absorbed} \end{aligned}$$

$$\begin{aligned} b) \quad P_{4I_x} &= -4(2)(2) = -16 \text{ W} \\ P_{4I_x} &= 16 \text{ W supplied} \\ P_{24V} &= -24(2) = -48 \text{ W} \\ P_{24V} &= 48 \text{ W supplied} \\ P_1 &= 20(2) = 40 \text{ W absorbed} \\ P_2 &= 12(2) = 24 \text{ W absorbed} \end{aligned}$$