

- 1.23 (a)** In Fig. P1.23 (a), $P_1 = 36 \text{ W}$. Is element 2 absorbing or supplying power, and how much?
- (b)** In Fig. P1.23 (b), $P_2 = -48 \text{ W}$. Is element 1 absorbing or supplying power, and how much?

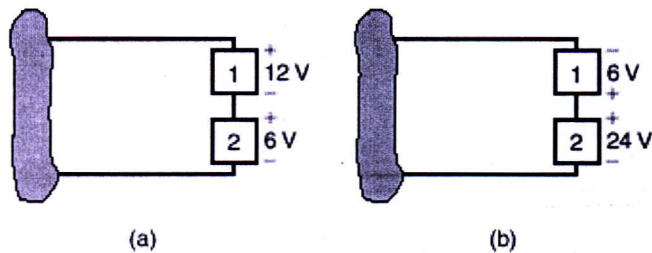


Figure P1.23

SOLUTION:

$$a) P_1 = 36 \text{ W}$$

$$I = \frac{P_1}{V}$$

$$I = \frac{36}{12}$$

$$I = 3 \text{ A}$$

$$P_2 = V_2 I$$

$$P_2 = 6(3)$$

$$P_2 = 18 \text{ W absorbed}$$

$$b) P_2 = -48 \text{ W}$$

$$I = \frac{P_2}{-V_2}$$

$$I = \frac{-48}{-24}$$

$$I = 2 \text{ A}$$

$$P_1 = V_1 I$$

$$P_1 = 12(2)$$

$$P_1 = 24 \text{ W absorbed}$$