

Determine the power P_1 supplied by voltage source v_1 and the power P_2 supplied by voltage source v_2 .

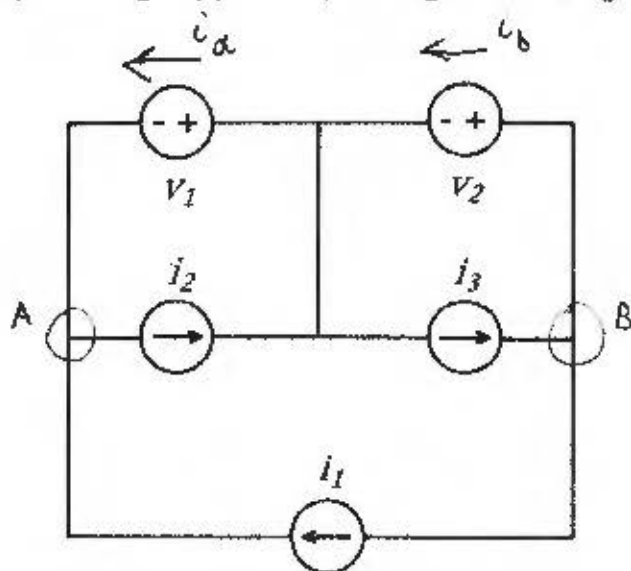
$$i_1 = 4 \text{ A}$$

$$i_2 = 2 \text{ A}$$

$$i_3 = 3 \text{ A}$$

$$v_1 = 3 \text{ V}$$

$$v_2 = 4 \text{ V}$$



$$\text{KCL @ A: } i_1 + i_a = i_2 \Rightarrow i_a = 2 - 4 = -2 \text{ A}$$

$$P_1 = v_1 \cdot i_a = -6 \text{ W} \quad \text{RECEIVED} \quad \left(\text{PASSIVE SIGN CONVENTION} \right)$$

$$\boxed{P_1 = 6 \text{ W}} \quad \text{SUPPLIED}$$

$$\text{KCL @ B: } i_3 = i_b + i_1 \Rightarrow i_b = 3 - 4 = -1 \text{ A}$$

$$P_2 = v_2 \cdot i_b = -4 \text{ W} \quad \text{RECEIVED}$$

$$\boxed{P_2 = 4 \text{ W}} \quad \text{SUPPLIED}$$