

The reading of the voltmeter is x and that of the ammeter is y .

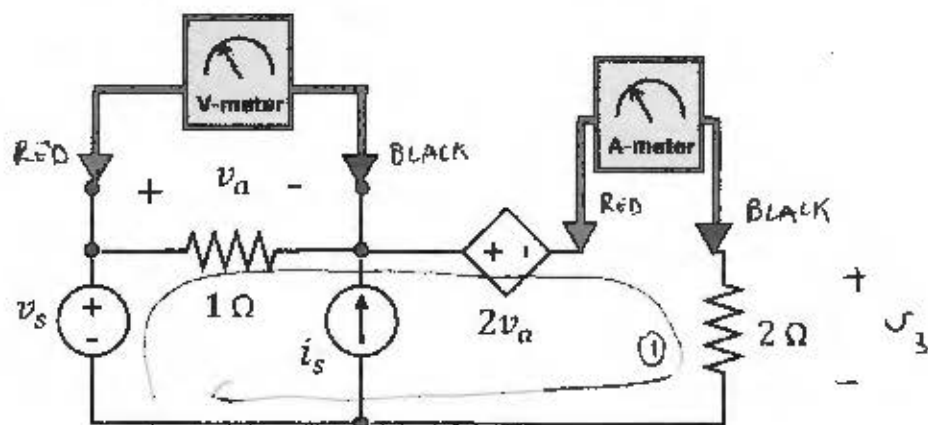
What is the power P supplied by the VCVS?

$$X = 6 \text{ V}$$

What is the value of the current source i_s ?

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

What is the value of the voltage source v_s ?

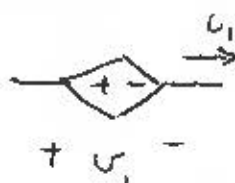


(a)

$$v_a = X = 6$$

$$i_1 = Y = 3$$

$$v_1 = 2v_a = 12$$

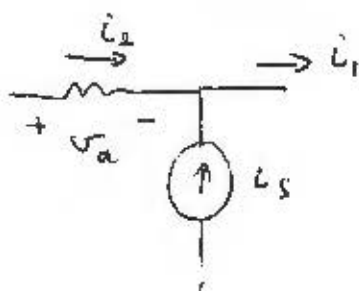


$$P = v_1 \cdot i_1 = 36 \text{ W}$$

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$$P = -36 \text{ W SUPPLIED}$$

(b)



$$i_1 = \frac{v_a}{1} = 6 \text{ A}$$

$$\text{KCL: } i_2 + i_s = i_1 \Rightarrow i_s = 3 - 6 = -3$$

$$i_s = -3 \text{ A}$$

(c) KVL in (1):

$$\begin{aligned} v_s &= v_a + 2v_a + v_3 \\ &= 3 \cdot 6 + 6 \\ &= 24 \end{aligned}$$

$$v_3 = i_1 \cdot 2 = 6 \text{ V}$$

$$v_s = 24 \text{ V}$$