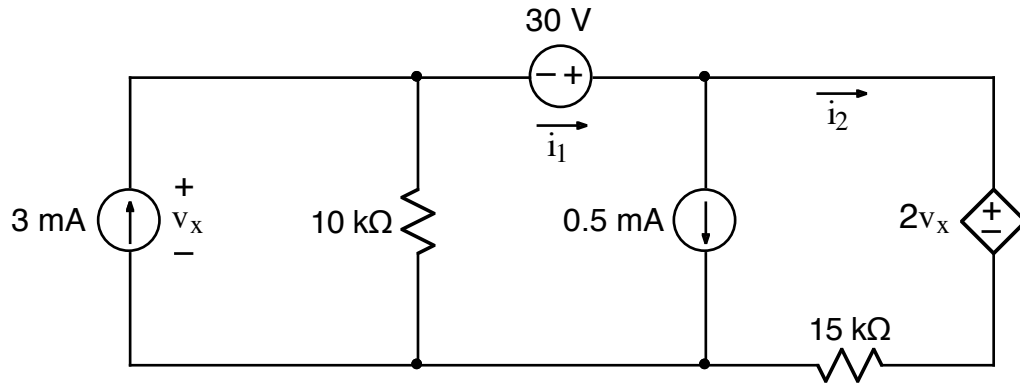


Ex:



Given $i_1 = 1.5 \text{ mA}$ and $i_2 = 1 \text{ mA}$, find the power dissipated by the dependent source.

SOL'N:

$$\text{We know } v_x = (3 \text{ mA} - i_1) 10 \text{ k}\Omega$$

$$= \frac{3}{2} \text{ mA} \cdot 10 \text{ k}\Omega$$

$$v_x = 15 \text{ V}$$

The current for the dependent src is i_2 .

$$i_2 = 1 \text{ mA}$$

Thus, power for the dependent src is

$$p = v \cdot i = 2v_x i_2 = 2(15 \text{ V}) \cdot 1 \text{ mA}$$

$$\text{or } p = 30 \text{ mW.}$$