SA1 [5 Marks]. Consider the following circuit:
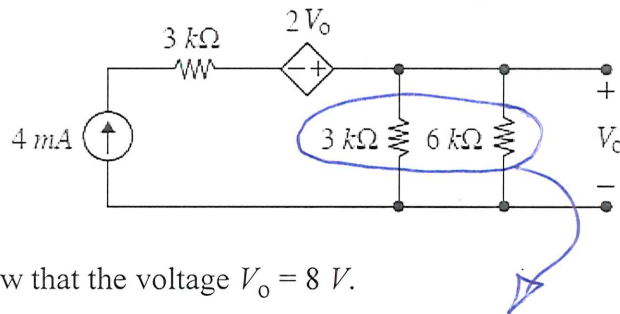

(a) [2Marks] Show that the voltage $V_o = 8\ V$.

$$(3k\Omega) \| (6k\Omega) = \frac{(3k\Omega)(6k\Omega)}{(3k\Omega) + (6k\Omega)} = 2k\Omega$$

$$V_o = (4mA)(2k\Omega) = 8V.$$

(b) [3 Marks] Determine the amount of power absorbed or supplied by the dependent voltage source. Recall that a positive value indicates power absorbed.

4mA enters the neg. (low potential) side of the dep. voltage source $\Rightarrow$ it is supplying energy/power.

$$P_{abs} = (-2V_o)(4mA)$$
$$= (-2)(8V)(4mA)$$
$$= -64\ mW.$$