Homework #1
EE 201 (012)
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Problem #1: Consider figure 1 shown below:

(a) Determine the values of the currents i_1 and i_3 and of the voltages v_2 and v_4 .

(b) Determine the power absorbed by each element.

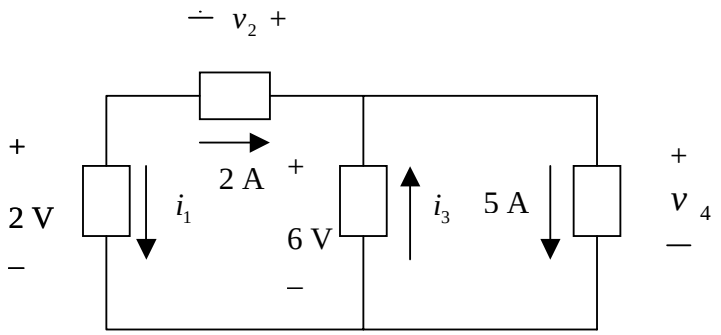

Figure 1

Answer: *(a)* $i_1 = -2A,\ i_3 = 3A,\ v_2 = 4V,\ v_4 = 6V$.

(b) $p_1 = -4W, p_2 = -8W, p_3 = -18W, p_4 = 30W$

Problem #2: For the circuit shown in Figure 2, find the following:

(a) The values of the currents $i_3, i_4, i_5, i_7,$ and i_8 and of the voltages v_1, v_2, v_6 and v_9.

(b) The power associated with each element and show that total power is zero.

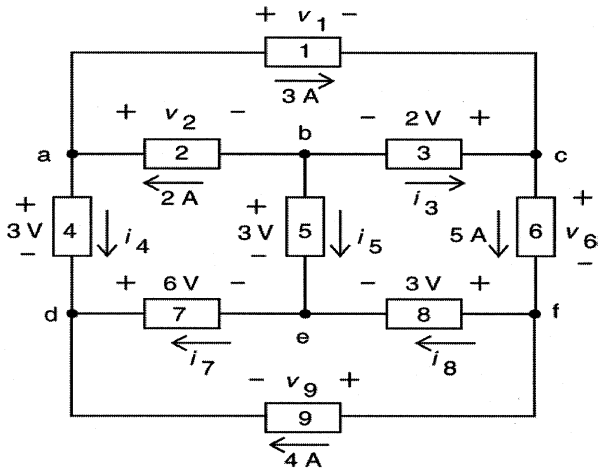

Figure 2

Answer:

(a) $i_3 = 2A, i_4 = -1A,\ i_5 = -4A, i_7 = -3A, i_8 = 1A, v_1 = 4V, v_2 = 6V, v_6 = 2V$ and $v_9 = -3V$.

(b) $p_1 = 12W, p_2 = -12W, p_3 = -4W, p_4 = -3W, p_5 = -12W, p_6 = 10W, p_7 = 18W, p_8 = 3W, p_9 - 12W$