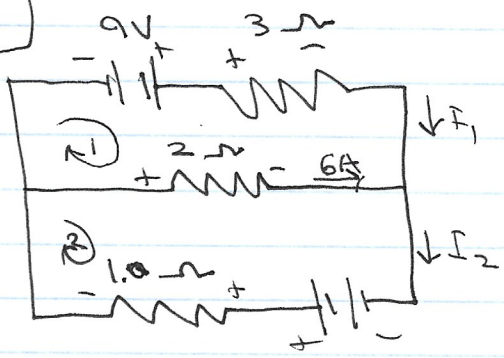
Discussion 15

a.) $I_3 = 6A = I_2 - I_1$ ~~5 eq~~ 2 eq → 1 eq



b.) 1.) $9V - (3\Omega)I_1 + (2\Omega)I_3 = 0$

2.) $\mathcal{E} - (1\Omega)I_2 - (2\Omega)I_3 = 0$

~~3.) $\mathcal{E} - I_2 + 9 - 3I_1 = 0$~~ 2 eq

~~4~~

c.) $I_1 + 6 = I_2$ ~~subst I_1~~

$-3I_1 = -21$ $I_1 = 7A$

$I_2 = 7 + 6 = 13A$

$\mathcal{E} - 13 - 12 = 0$

$\mathcal{E} = 25V$

Arrows are correct

d.) $V_a + 9 - 3I_1 = V_b$

$V_A - V_B = 12V$

e.) Both loosing energy