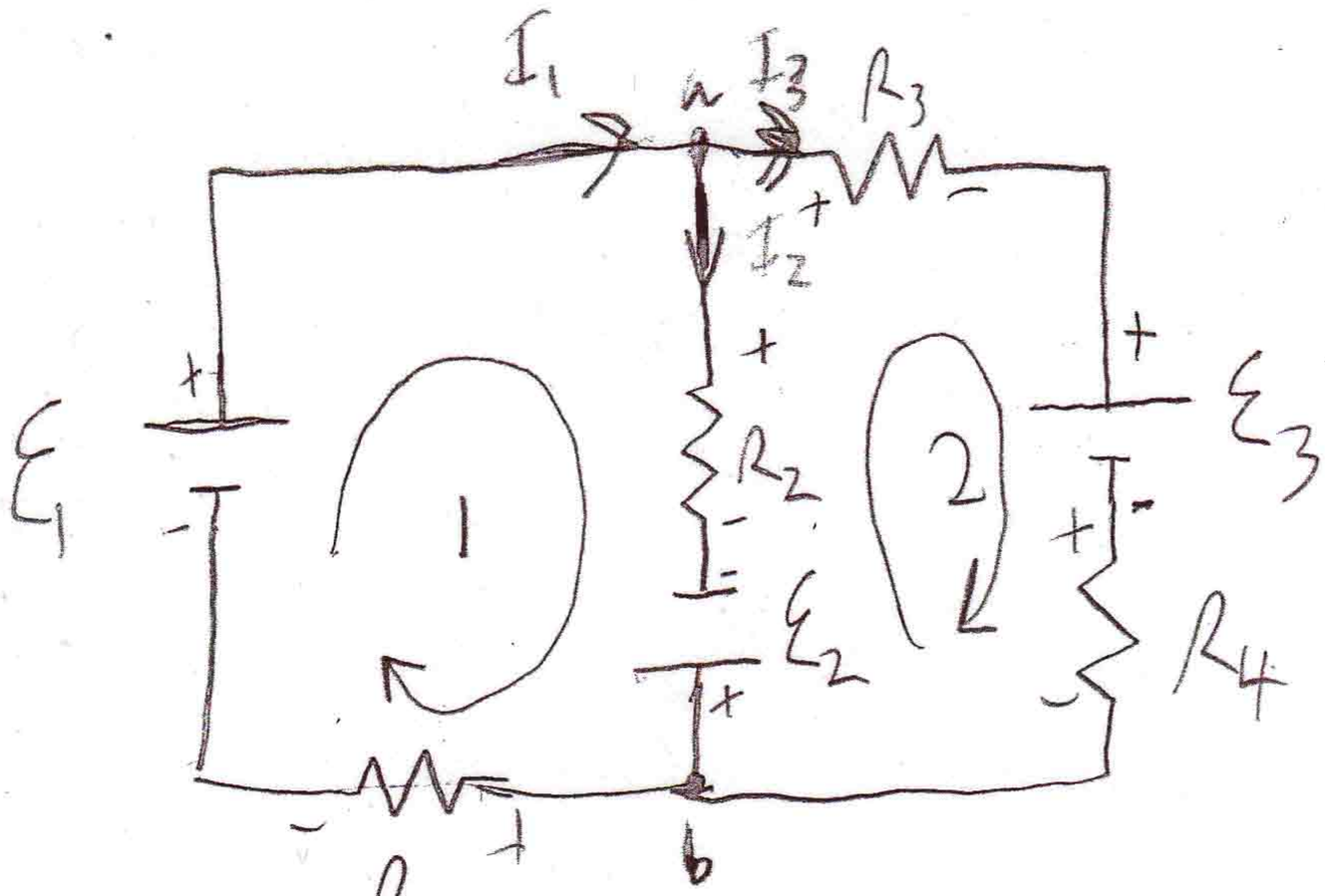

$\mathcal{E}_1 = 8$ $R_1 = 4$

$\mathcal{E}_2 = 10$ $R_2 = 6$

$\mathcal{E}_3 = 12$ $R_3 = 2$

$R_4 = 8$

A) $I_1 = I_2 + I_3$

$\mathcal{E}_1 - I_2 R_2 + \mathcal{E}_2 - I_1 R_1 = 0 \Rightarrow I_1 = 4.5 - 1.5 I_2$

$8 - 6I_2 + 10 - 4I_1 = 0$

$I_1 = 4.5 - 1.5(2.16)$

$\boxed{I_1 = 1.26\ A}$

$-\mathcal{E}_3 - \mathcal{E}_2 + I_2 R_2 - I_3 R_3 - I_3 R_4 = 0 \Rightarrow I_3 = -2.2 + .6 I_2$

$-12 - 10 + 6I_2 - 2I_3 - 8I_3 = 0$

$I_3 = 2.2 + .6(2.16)$

$\boxed{I_3 = -.904\ A}$

$-22 + 6I_2 = 10I_3$

$4.5 - 1.5I_2 = I_2 - 2.2 + .6I_2$

$6.7 = 3.1 I_2$

$\boxed{2.16A = I_2}$

$I_1 = 1.26A$	correct
$I_2 = 2.16A$	correct
$I_3 = -.904$	Incorrect

B) $P_{R_1} = I_1^2 R_1 = (1.26)^2(4) = 6.35\ W$

$P_{R_2} = I_2^2 R_2 = (2.16)^2(6) = 27.99\ W$

$P_{R_3} = I_3^2 R_3 = (.904)^2(2) = 1.63\ W$

$P_{R_4} = I_3^2 R_4 = (.904)^2(8) = 6.54 W$

C) $P_{\mathcal{E}_1} = I_1 \mathcal{E}_1 = (1.26)(8) = 10.08\ W$ Del. by

$P_{\mathcal{E}_2} = I_2 \mathcal{E}_2 = (2.16)(10) = 21.6\ W$ Del. by

$P_{\mathcal{E}_3} = I_3 \mathcal{E}_3 = (.904)(12) = 10.85 W$ Del. By

D) $|\Delta V| = |-I_2 R_2 + \mathcal{E}_2|$

$\Delta V = 2.96\ V$