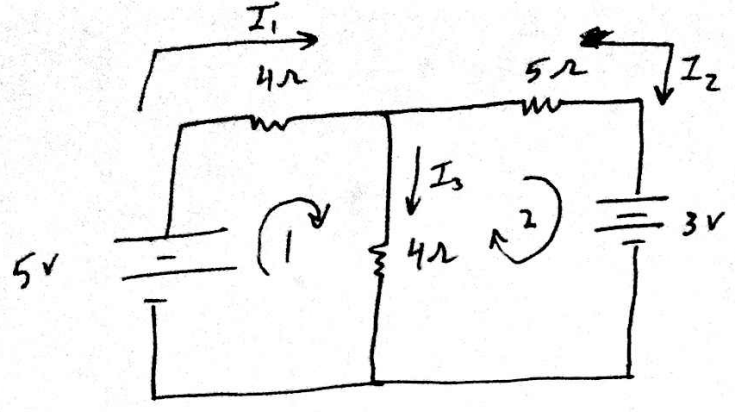


AP Circuits HW 2, Problem 3



$$\textcircled{1} \quad 5 - I_1(4) - I_3(4) = 0$$

$$\textcircled{2} \quad -3 + I_3(4) - I_2(5) = 0$$

$$\textcircled{3} \quad I_1 = I_2 + I_3$$

$$\textcircled{1} \quad 5 - I_1(4) - I_3(4) = 0$$

$$5 - (I_2 + I_3)4 - I_3(4) = 0$$

$$5 - 4I_2 - 4I_3 - 4I_3 = 0$$

$$5 - 4I_2 - 8I_3 = 0$$

$$5 - 4I_2 = 8I_3$$

$$.625 - \frac{1}{2}I_2 = I_3$$

$$\textcircled{2} \quad -3 + I_3(4) - I_2(5) = 0$$

$$-3 + (.625 - \frac{1}{2}I_2)(4) - I_2(5) = 0$$

$$-3 + 2.5 - 2I_2 - 5I_2 = 0$$

$$-0.5 = 7I_2$$

$$-0.0714A = I_2$$

From $\textcircled{2}$ $I_3 = +0.661A$
 From $\textcircled{1}$ $I_1 = \cancel{1.589}A$
 From $\textcircled{3}$ ✓