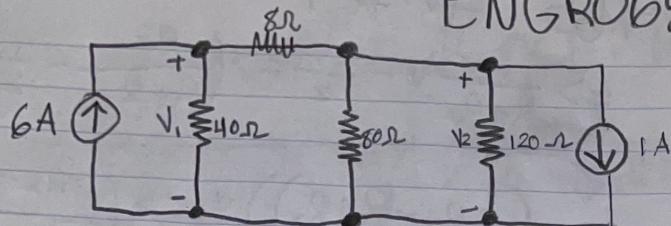


ENGR065: HW#4

5-



$$-6 + \frac{V_1}{40} + \frac{V_1 - V_2}{8} = 0$$

$$\frac{V_1}{40} + \frac{V_1 - V_2}{8} = 6 \Rightarrow \frac{V_1 + 5V_1 + 5V_2}{40} = 6 \Rightarrow 6V_1 - 5V_2 = 240$$

$$\frac{V_2 - V_1}{8} + \frac{V_2}{80} + \frac{V_2}{120} + 1 = 0 \Rightarrow \frac{30(V_2 - V_1) + 3V_2 + 2V_2}{240} = -1$$

$$-30V_1 + 35V_2 = -240 \Rightarrow V_2 = \frac{-240 + 30V_1}{35}$$

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$$6V_1 - 5\left(\frac{-240 + 30V_1}{35}\right) = 240 \Rightarrow 210V_1 + 1200 - 150V_1 = 8400$$

$$\frac{60V_1}{60} = \frac{7200}{60} \Rightarrow V_1 = 120$$

$$V_2 = \frac{-240 + 30(120)}{35} \Rightarrow \frac{-240 + 3600}{35} = \frac{3360}{35}$$

$$V_2 = 96 \text{ V}$$