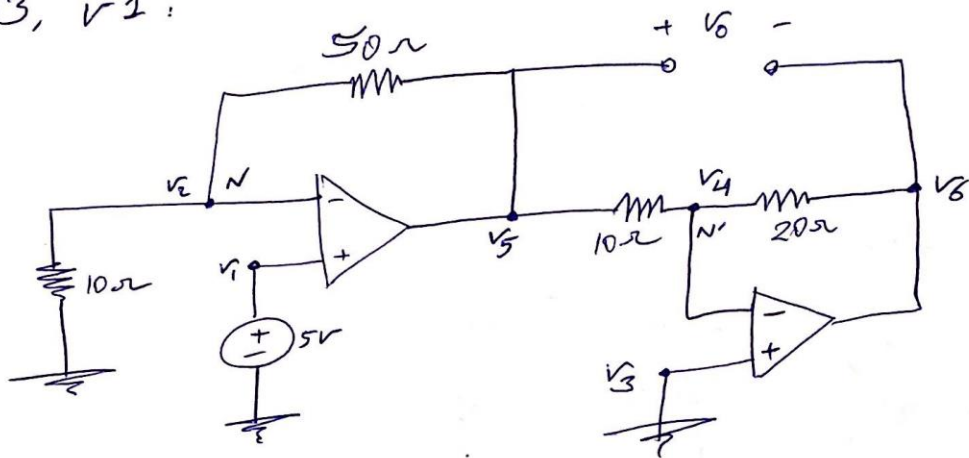


Q3, v1:



$$v_2 = v_1 = 5V$$

$$v_4 = v_3 = 0$$

$$\text{KCL @ } N: \frac{v_2}{10} + \frac{v_2 - v_5}{50} = 0 \xrightarrow{v_2 = 5} \boxed{v_5 = 30}$$

$$\text{KCL @ } N': \frac{v_4 - v_5}{10} + \frac{v_4 - v_6}{20} = 0 \xrightarrow{\substack{v_4 = 0 \\ v_5 = 30}} \boxed{v_6 = -60}$$

$$v_0 = v_5 - v_6 = 30 - (-60) = \boxed{90 \text{ V}}$$