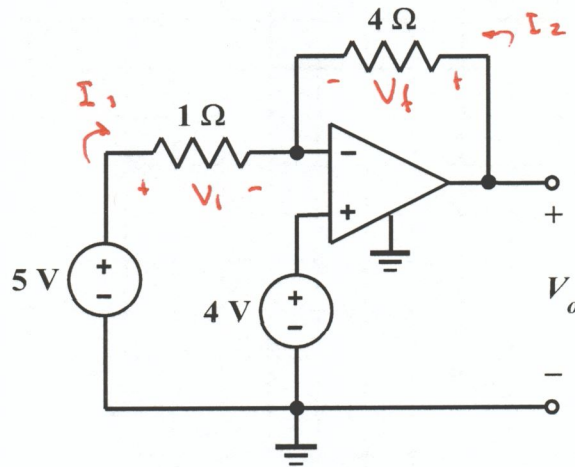


EE 2240
Problem #04

Assume the op amp is ideal, and find V_o .



$$V_1 = 5V - 4V = 1V$$

$$I_1 = \frac{V_1}{1\Omega} = \frac{1V}{1\Omega} = 1A$$

$$V_f = V_o - 4V$$

$$I_2 = \frac{V_f}{4\Omega} = \frac{V_o - 4V}{4\Omega} = \frac{V_o}{4\Omega} - 1A$$

$$I_1 + I_2 = 0 \Rightarrow \frac{V_o}{4\Omega} - 1A = -1A$$

$$V_o = 4\Omega(-1A + 1A) = 0V$$