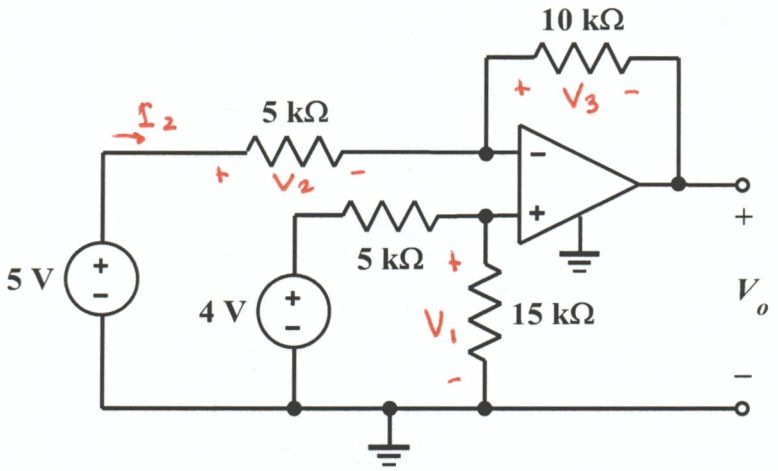
EE 2240

Problem #07

Assume the op amp is ideal, and find V_o.



$$V_1 = \frac{15k\Omega}{5k\Omega + 15k\Omega} \cdot 4V = 3V$$

$$V_2 = 5V - V_1 = 5V - 3V = 2V$$

$$I_2 = \frac{V_2}{5k\Omega} = \frac{2V}{5k\Omega} = 400\mu A$$

$$V_3 = (10k\Omega)\, I_2 = (10k\Omega)(400\mu A) = 4V$$

$$V_o = -V_3 + V_1 = -4V + 3V = -1V$$