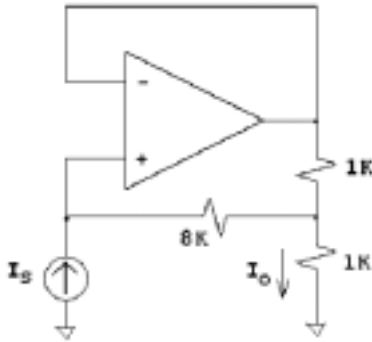


**HOMEWORK #2 – Part 2 of 2**

1. Find  $\frac{I_o}{I_s}$  for the circuit below.

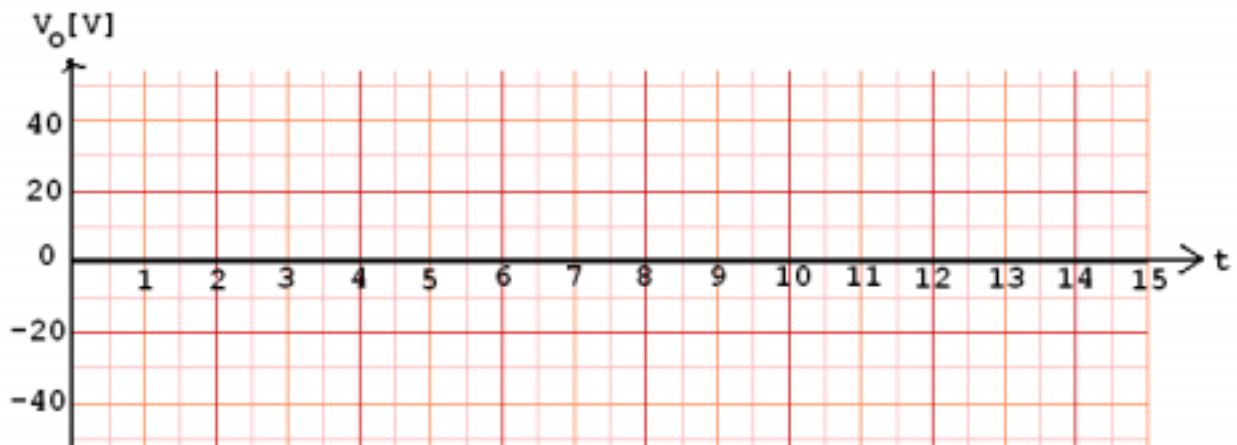
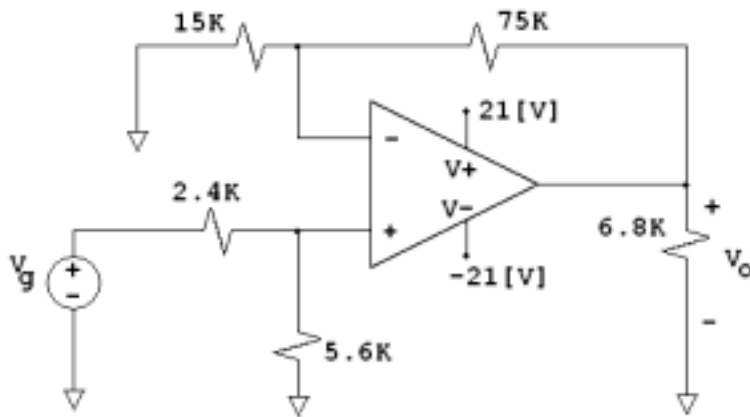


2. The input voltage  $V_g$  is described by the following equations:

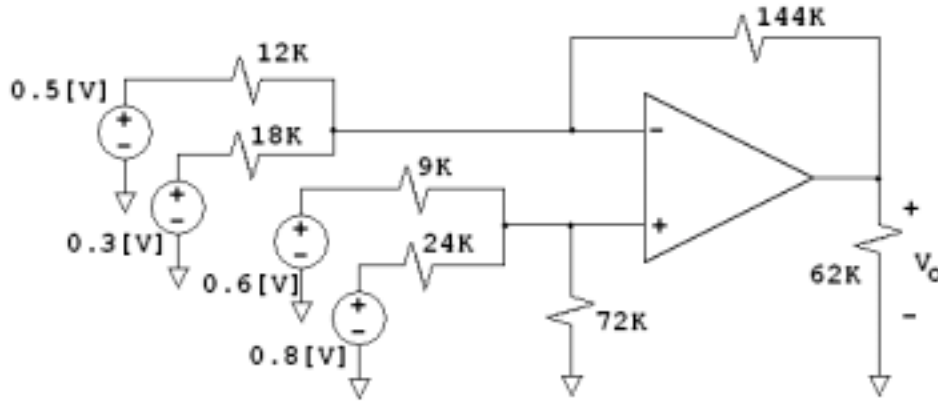
$$V_g = 0 \quad \text{for } t < 0$$

$$V_g = 10 \sin \frac{\pi}{3} t \quad \text{for } t > 0.$$

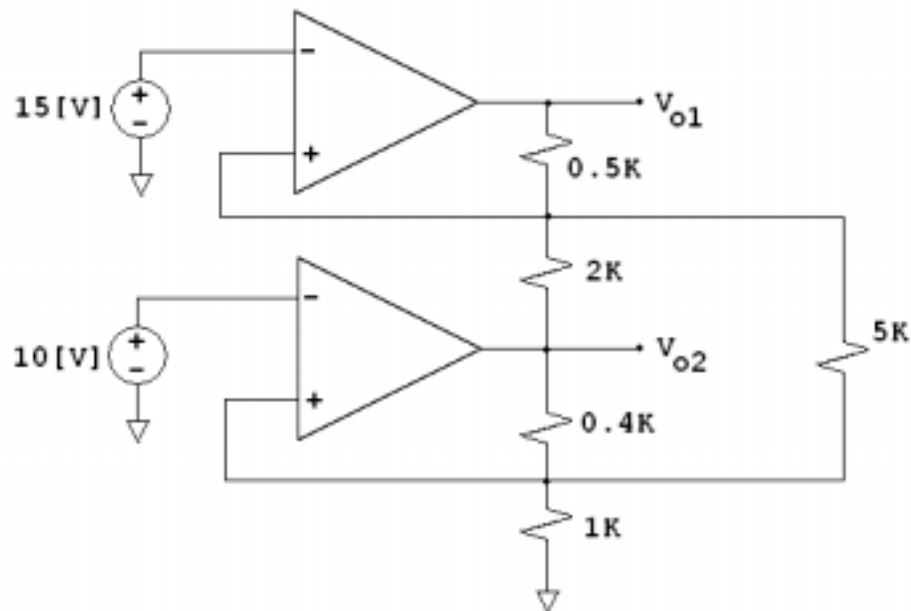
Sketch  $V_o$  versus  $t$ , assuming that the Op Amp is ideal in the circuit below.



3. Find  $V_o$ .



4. Calculate  $V_{o1}$  and  $V_{o2}$ .



5. (Non-Ideal OP Amp Question). The op amp has an input resistance of  $500\text{ k}\Omega$ , and output resistance of  $750\ \Omega$ , and an open-loop gain of  $50,000$ . Find the Thevenin equivalent circuit with respect to the output terminals  $a$  and  $b$ .

