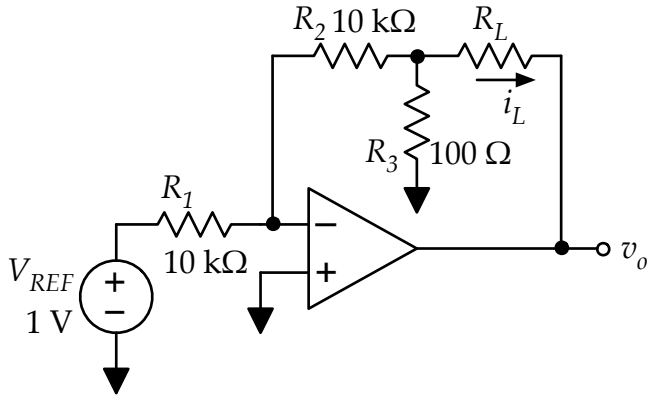


For the circuit shown below,  $V_{REF}$  is a fixed DC reference voltage, and the op amp is ideal.



- Calculate  $i_L$  and  $v_o$ , if  $R_L = 100 \Omega$ .

$i_L =$  \_\_\_\_\_ ;  $v_o =$  \_\_\_\_\_

- Calculate  $i_L$  and  $v_o$ , if  $R_L = 500 \Omega$ .

$i_L =$  \_\_\_\_\_ ;  $v_o =$  \_\_\_\_\_

- Calculate  $i_L$  and  $v_o$ , if  $R_L = 1 \text{ k}\Omega$ .

$i_L =$  \_\_\_\_\_ ;  $v_o =$  \_\_\_\_\_

- What value of  $R_L$  will give an output voltage of  $-15 \text{ V}$  while keeping  $i_L$  at the same level found in the previous calculations.

$R_L =$  \_\_\_\_\_