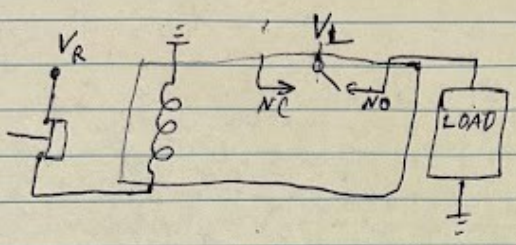
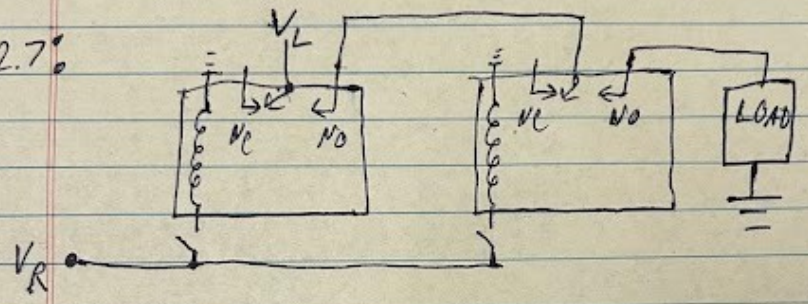
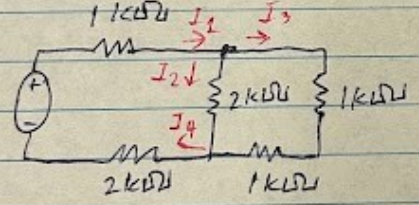
P2.6:



P2.7:



P2.11:



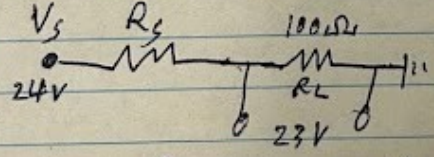
$R_{eq} = 4k\Omega$

$\rightarrow I_1 = \frac{5}{4 \cdot 10^3} = 1.25\ mA$

$I_1 = I_2 + I_3$ & $I_2 \cdot (2 \cdot 10^3) = I_3 \cdot (1+1) \cdot 10^3$

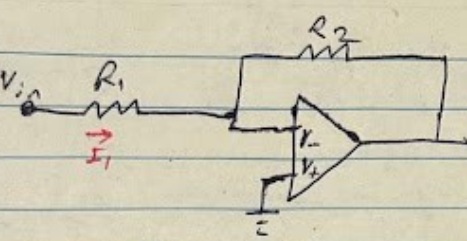
$\rightarrow I_2 = I_3 = \frac{I_1}{2} = 0.625\ mA$

P2.23



$23 = \frac{R_L}{R_S + R_L} \cdot 24 \rightarrow \frac{100 \cdot 24}{23} - 100 = R_S = 4.35\ \Omega$

p 2.29:



$R_1 = 1\,k\Omega$

$R_2 = 5\,k\Omega$

$$Gain = \frac{-R_2}{R_1} = -5 \quad \rightarrow V_{out} = V_{in} \cdot -5$$

a: $V_{in} = 1V \rightarrow V_{out} = -5\,V \rightarrow I_1 = \frac{V_{in} - V_{out}}{R_1 + R_2} = \frac{6}{6 \cdot 10^3} = 1\,mA$

b: $V_{in} = -2V \rightarrow V_{out} = 10\,V \rightarrow I_1 = \frac{V_{in} - V_{out}}{R_1 + R_2} = \frac{-12}{6 \cdot 10^3} = -2\,mA$

c: $V_{in} = 5V \rightarrow V_{out} = -25\,V$? NO! $\rightarrow -25 < V_{sat}$

$\rightarrow V_{out} = V_{sat} = -13V$

$\rightarrow I_1 = \frac{V_{in} - V_{out}}{R_1 + R_2} = \frac{18}{6 \cdot 10^3} = 3\,mA$