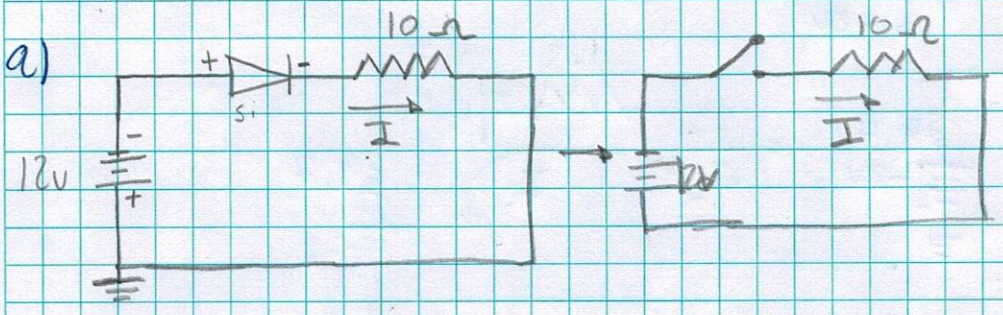
Martinez Murillo Omar Yarif

Actividad 3

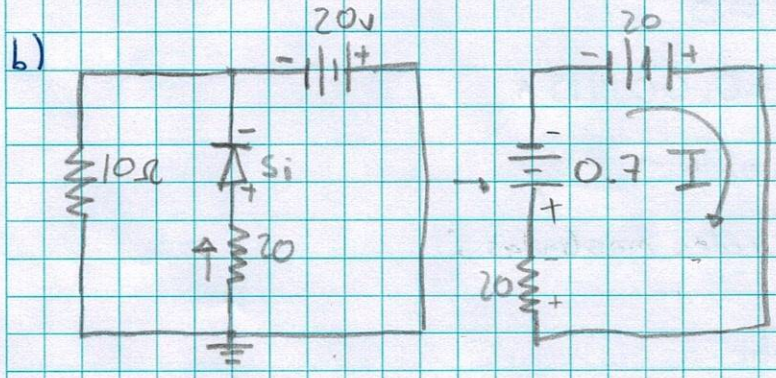
5.- Determine la corriente I para cada una de las configuraciones, utilizando el modelo equivalente del diodo

a)



$I = 0\ mA$

b)



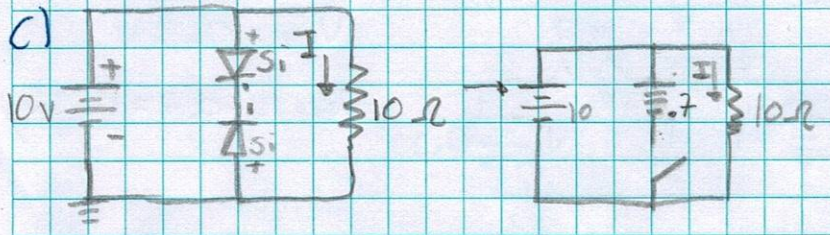
Ley de Kirchoff

$20I + 0.7 - 20 = 0$

$20I = 19.3$

$I = \frac{19.3}{20} = 0.965\ A$

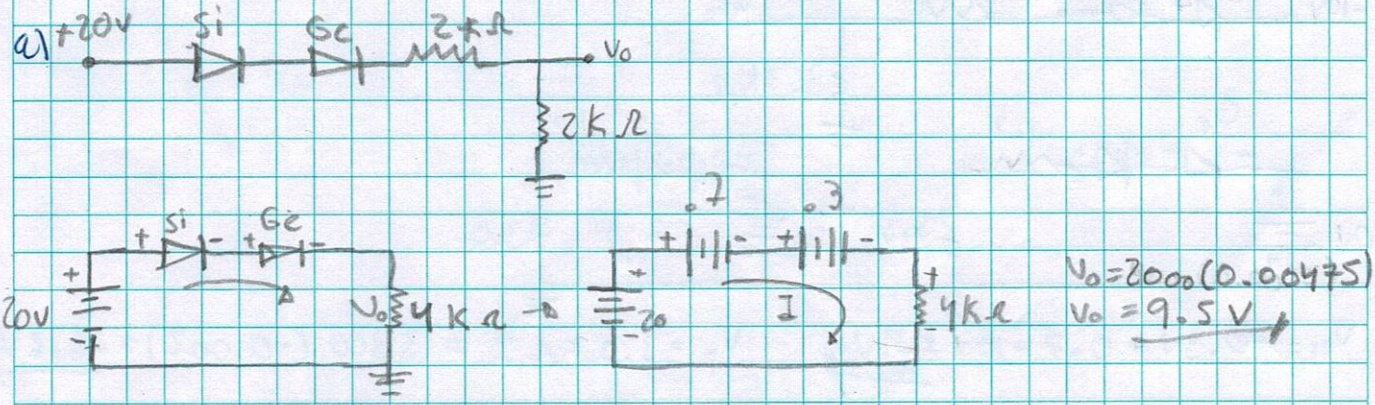
c)



$I = \frac{V}{R} = \frac{10v}{10\Omega} = 1\ A$

7.- Determine el nivel de V_o para cada una de las redes

a)

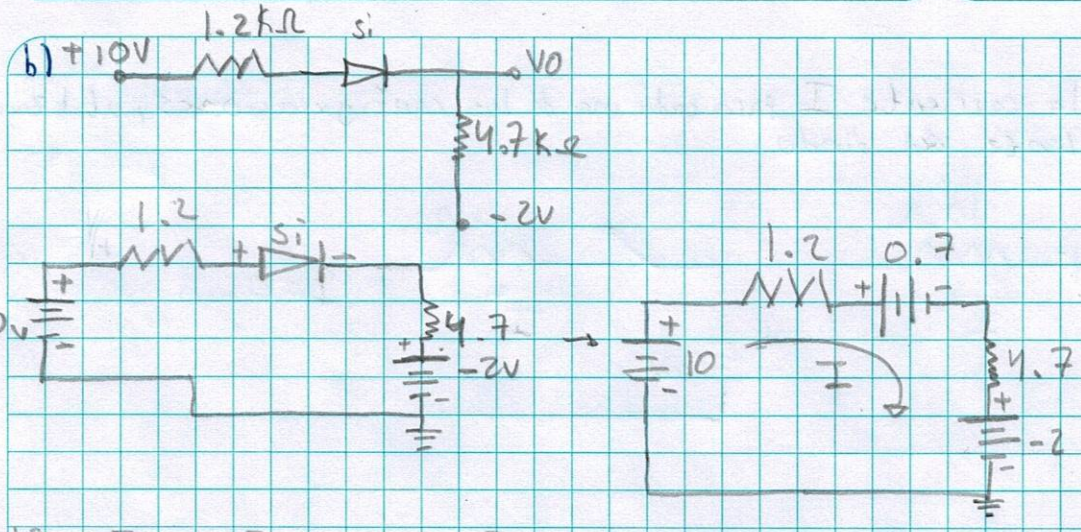


$0.7 + 0.3 + 4000I - 20 = 0$

$I = \frac{19}{4000} = 0.00475\ A$

$V_o = 2000(0.00475)$

$V_o = 9.5\ V$

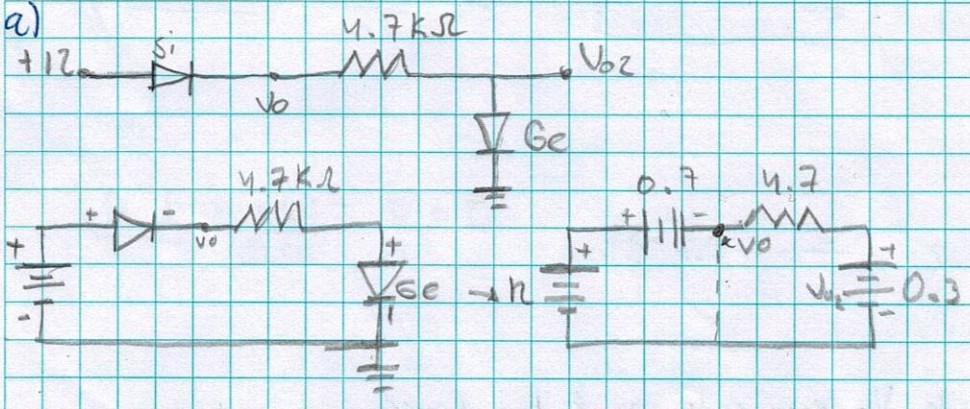
b) 

$1200I + 0.7 + 4700I - 2 - 10 = 0$

$5900I = 11.3V \rightarrow I = \frac{11.3}{5900} = 0.001915\,A$

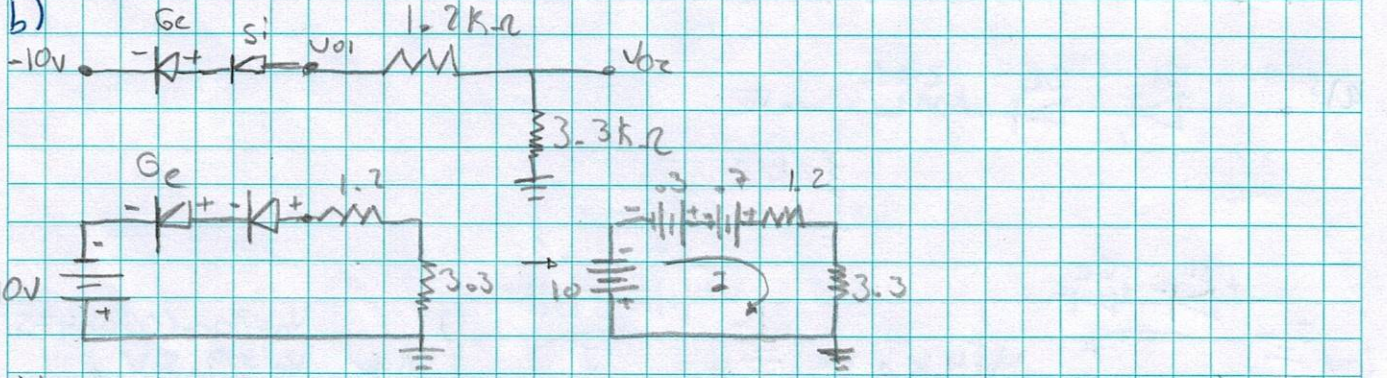
$V_o = 4700(0.001915) - 2V = 7.0016 \rightarrow \underline{7V}$

9.- Determine V_{o1} y V_{o2} para las redes mostradas:

a) 

$V_{o2} = 0.3\,V$

$V_{o1} = 12 - 0.7 = \underline{11.3V}$

b) 

$V_{o1} = +0.3V + 0.7 - 10V = \underline{-9V}$

$V_o = 3.3\,k\Omega\, I = 3300(-0.002) = \underline{-6.6V}$

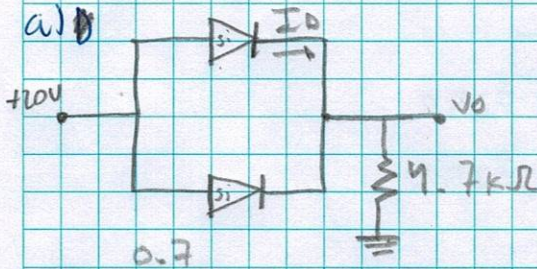
$-0.3 - 0.7 + 1200I + 3300I + 10 = 0$

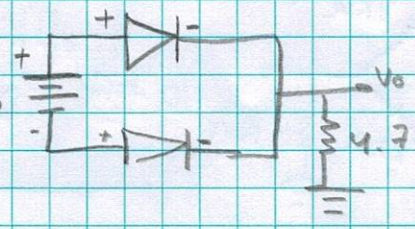
$4500I = -9$

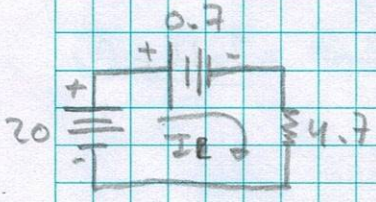
$I = -0.002$

10.- Determine V_o e I_D para las siguientes redes

a)







$0.7 + 4700 I_R - 20 = 0$

$4700 I_R = +19.3$

$I_R = 0.004106\,A$

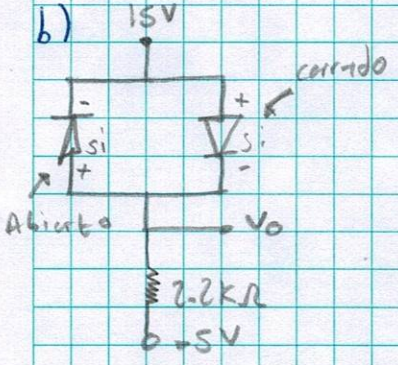
$= 4.106\,mA$

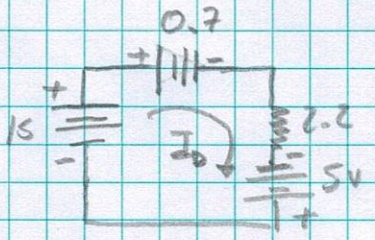
$V_o = 4700(0.004106) = 19.3\,V$

$I_D = \frac{0.004106\,A}{2} = 0.00205\,A$

$= 2.05\,mA$

b)





$0.7 + 2200 I_D - 5 - 15 = 0$

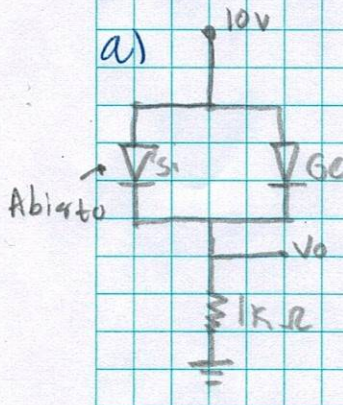
$2200 I_D = 19.3$

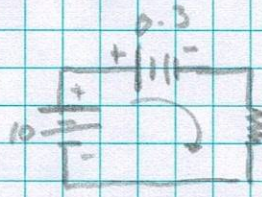
$I_D = 0.00877\,A = 8.77\,mA$

$V_o = 2200(0.00877) = 19.3 - 5 = 14.3\,V$

11.- Determine V_o e I para las siguientes redes

a)



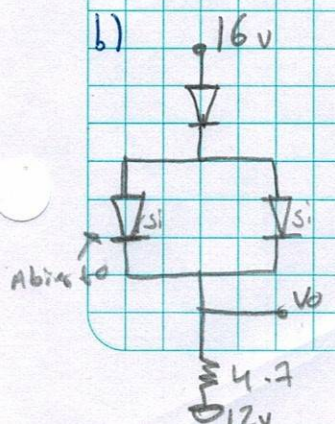


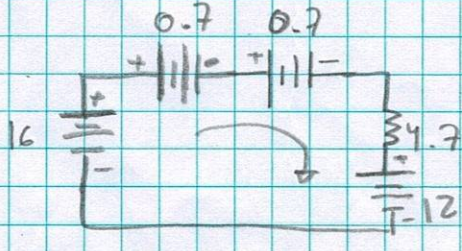
$0.3 + 1000 I - 10 = 0$

$I = \frac{9.7}{1000} = 0.0097\,A \rightarrow 9.7\,mA$

$V_o = 9.7$ Volts

b)





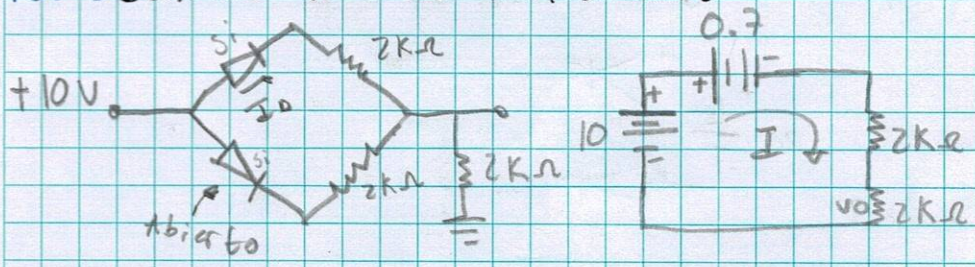
$0.7(2) + 4700 I + 12 - 16 = 0$

$4700 I = 2.6$

$I = 0.000553\,2A \rightarrow 553.2\,mA$

$V_o = 4700(0.0005532) + 12 = 14.6\,V$

13.- Determine V_o e I_D en el circuito



$-10 + 0.7 + 4000\,I = 0$

$I = \frac{9.3}{4000} = 0.002325A \rightarrow 2.325mA$

$V_o = 2000(0.002325) = 4.65$ Volts

$I_D = \frac{2.325mA}{2} = 1.16mA$