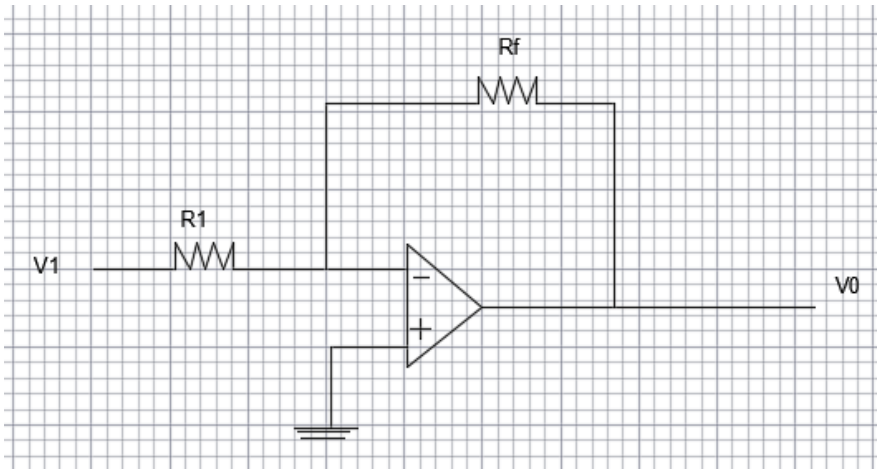
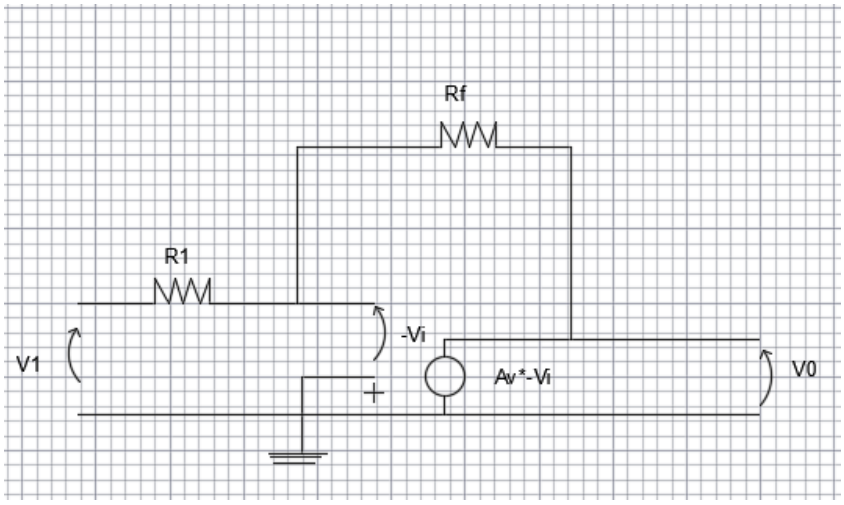
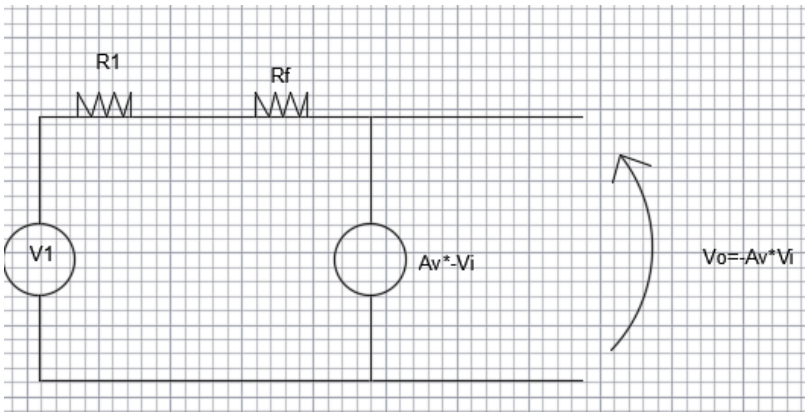
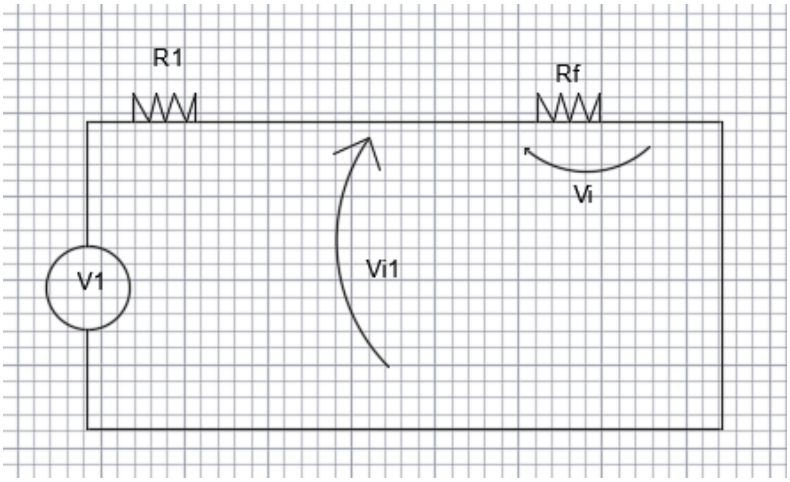
Niger Rojas

- **Inversor**

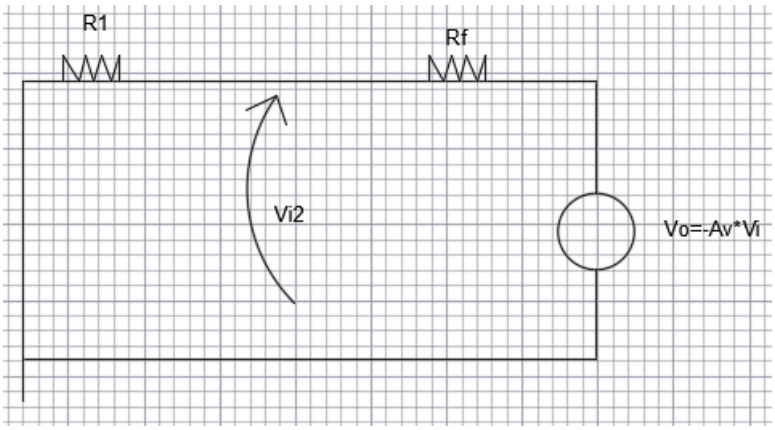








Vi1= Vi * Rf/Rf+R1



Por lo tanto:

Vi1=-Av*(ViRi)/(R1+Rf)

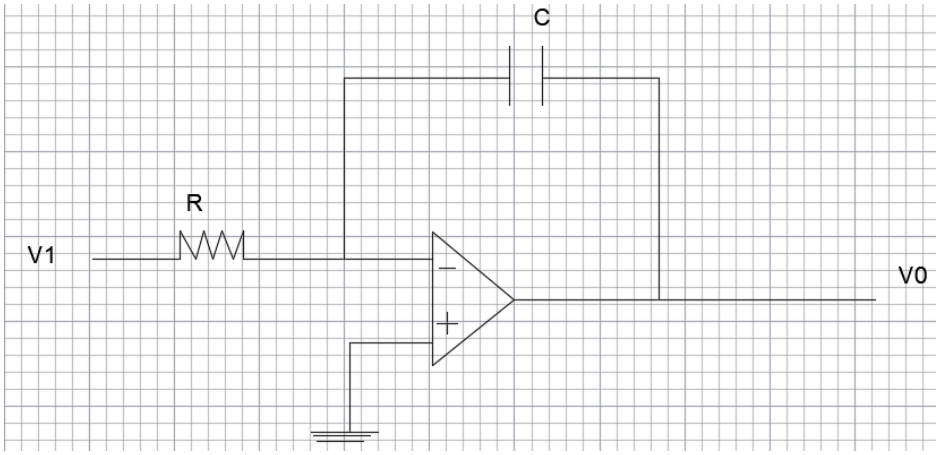
V1= (V1*Rf)/(R1+Rf+Av*R1)

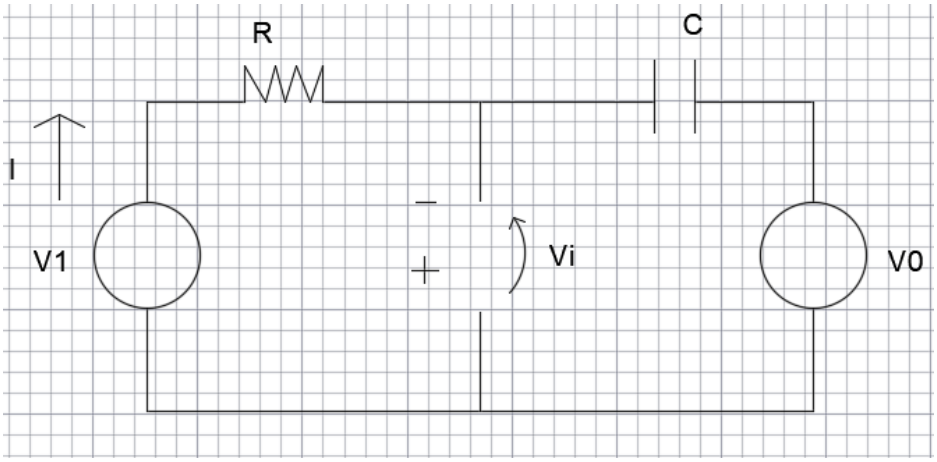
(V1*Rf)/(Av*R1)

Ganancia

Vo/V1=(-Av*Vi)/V1 = -Rf/R1

- **Integrador**





Vo/V1= -Xc/R

Además:

Xc = 1/(jwc)=1/sc

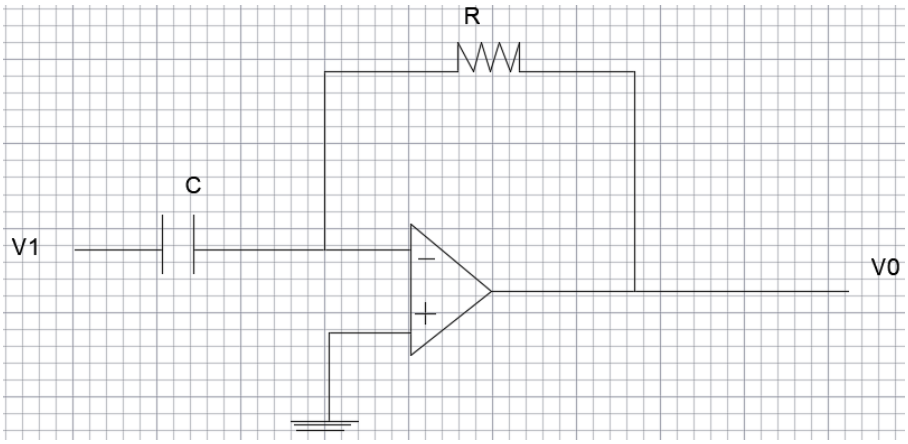
Siendo s= jw

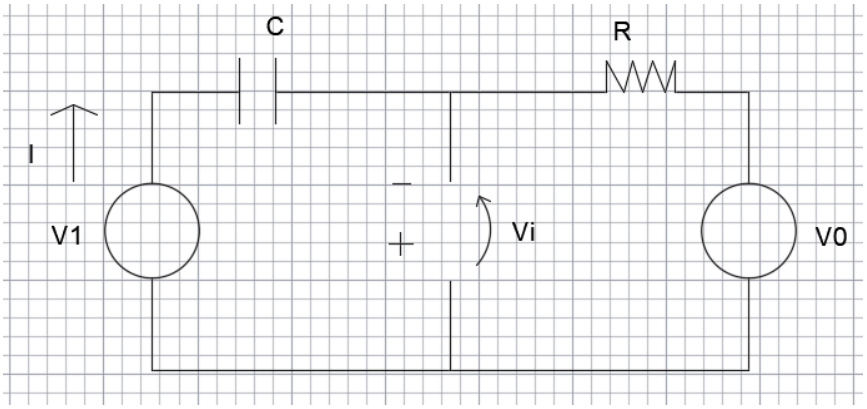
Vo/V1 =(-1/R)*(1/sc)= -1/SRC

En el dominio del tiempo:

Vo(t)=(-1/RC)*∫V1(t)*dt

- **Derivador**





Vo/V1= -R/XC

Además:

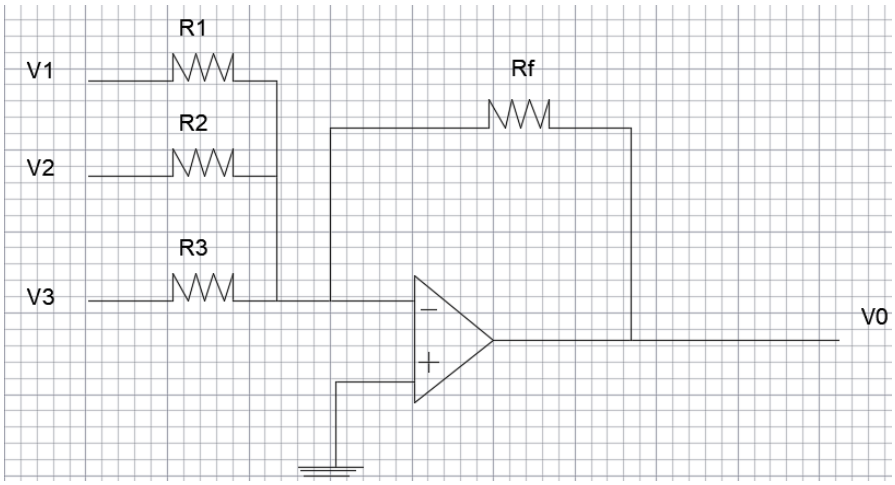
Xc = 1/(jwc)=1/sc

Vo/V1 =(-R)/(1/sc)= -SRC

En el dominio del tiempo:

Vo(t)=-RC*dVi(t)/dt

- **Sumador**



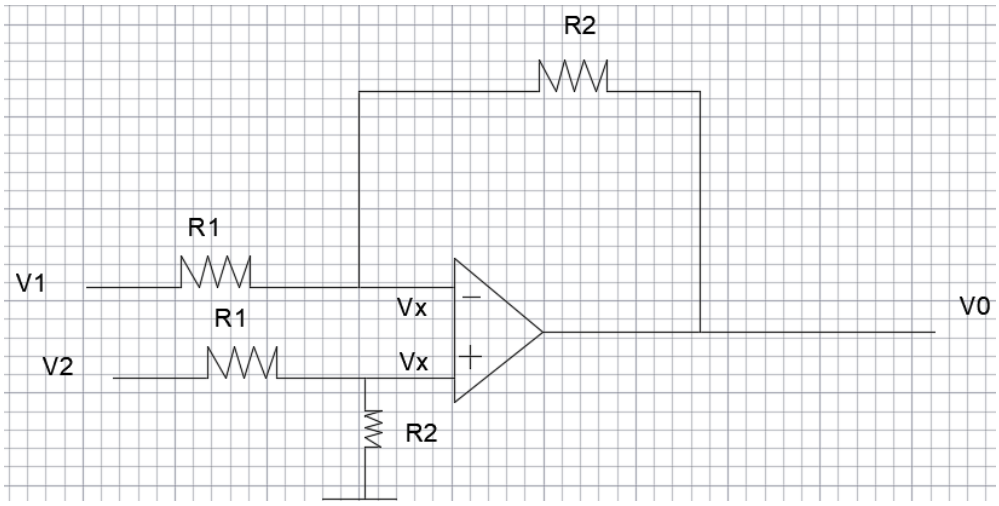
Por medio del equivalente y superposición.

Vo=-Rf/Req

Vo=-Rf/(R1+R2+R3)

Vo=-((Rf/R1)*V1+(Rf/R2)V2+(Rf/R3)V3)

- **Restador**



I1=i2

(v1-vx)/r1=(vx-vo)/r2

V1-((v2*r2)/(r1+r2))/r1= (v2*r2)/((r1+r2)/r2)-vo

V1*r2-((r2*v2)/(r1+r2))* (r1+r2)=-vo*r1

-((v1*r2)/r1)-((v2*r2)/r1)=vo

V2*(r2/r1)-v1*(r2/r1)=vo

Vo=(r2/r1)(v2-v1)