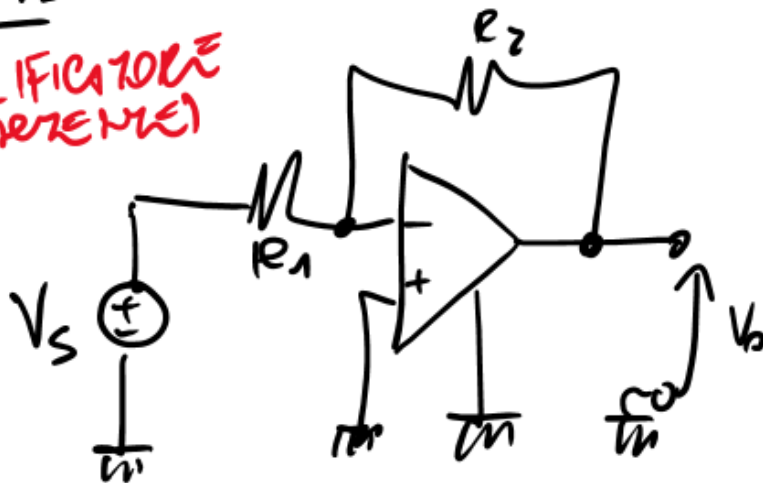


EX 10.1

(AMPLIFICATORE INVERTENTE)



H_P
 1) R_1, R_2
 1) V_S
 1) Op Amp IDEALE

$$\rightarrow G_V = \frac{V_O}{V_S}$$

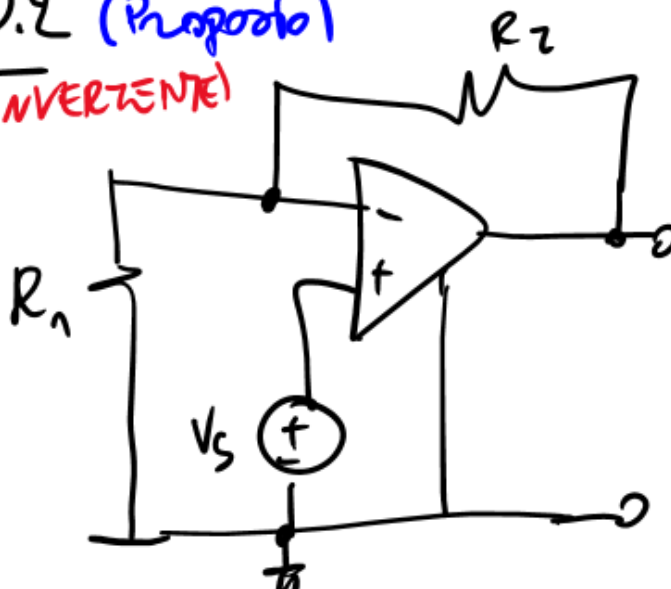
$\rightarrow P_{OPAMP}?$

1) Risolvere + analisi circuitale
 diretta

2) Con metodo dei potenziali nodali (MNA)

EX 10.2 (Proposto)

(NON INVERTENTE)

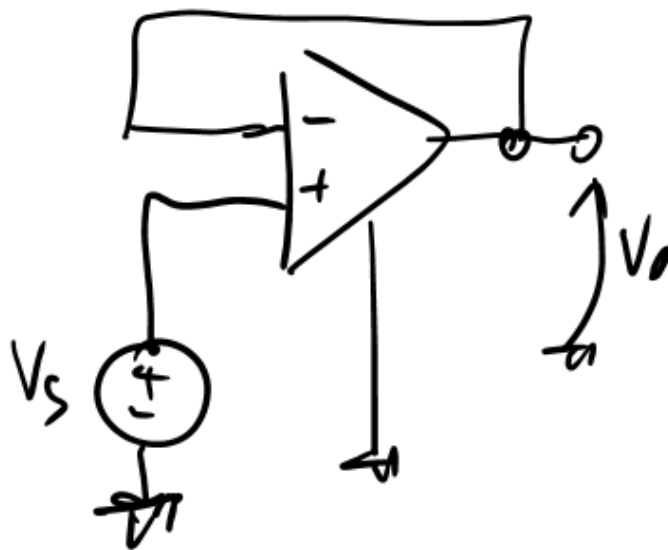


H_P
 1) R_1, R_2
 1) V_S
 Op Amp ID.

$$\rightarrow G = \frac{V_O}{V_S}$$

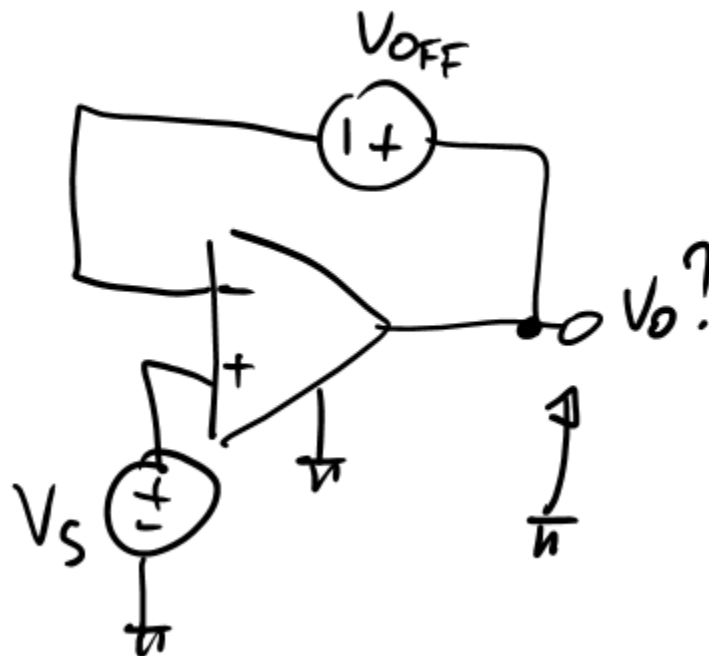
$\rightarrow P_{OPAMP}?$

Ex 10.3 (BUFFER TENSIONE)



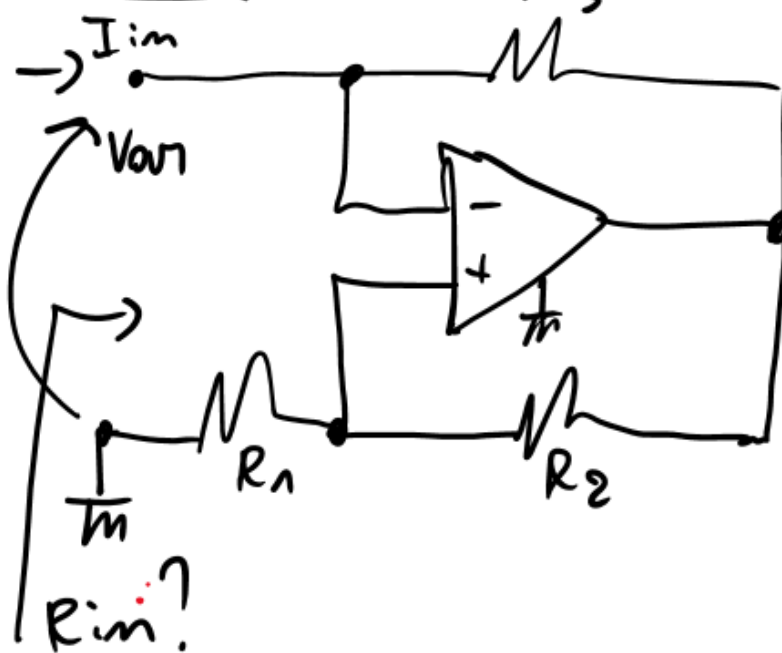
$\frac{H_2}{\Delta V_S}$
of op amp ID
 $\Rightarrow G = \frac{V_O}{V_S} ?$

Ex 10.4 (TRASLATORE DI TENSIONE)



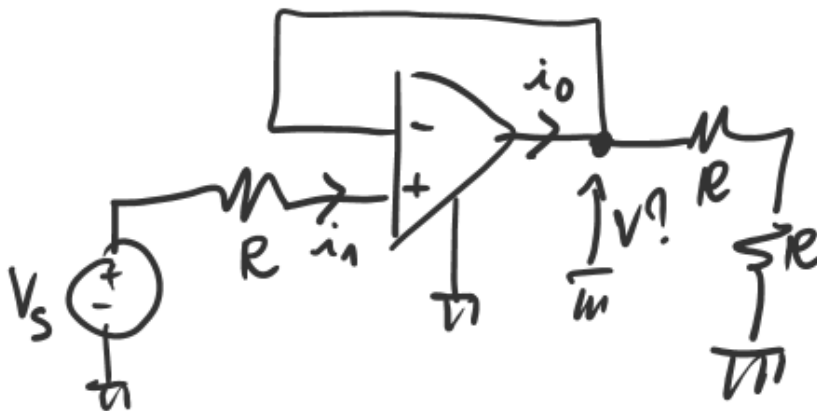
(SINTETIZZATORE DI RES. NEGATIVA)

EX 10.5



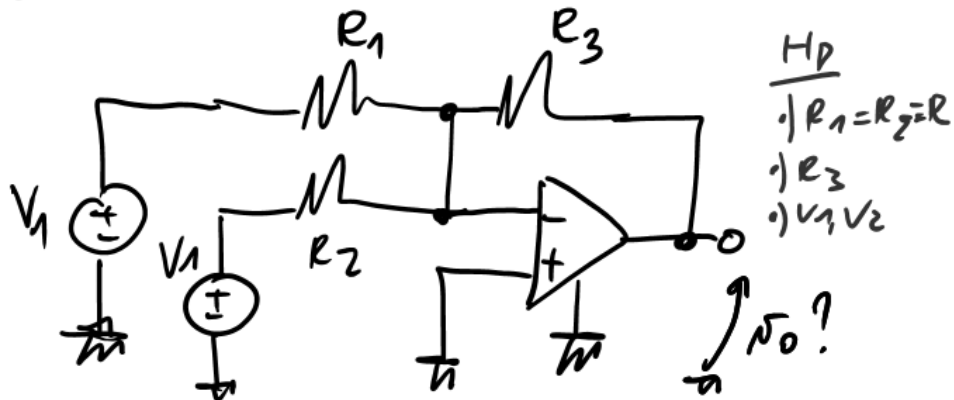
MP
 • R_1, R_2, R_3
 • I_{in}
 • op Amp ID.
 $\rightarrow R_{in} = \frac{V_{out}}{I_{in}}$

EX 10.6 (Proprio)



MP
 • $R = 1 \text{ k}\Omega$
 • $V_s = 10 \text{ V}$
 • $V?$
 • $i_1?$
 • $i_o?$

EX 10.7 (SOMMATORE INVERTELENTE)



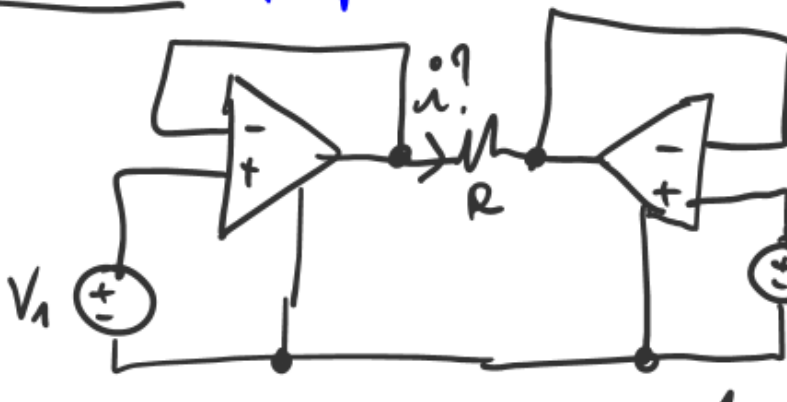
1) V_1, V_2 NOTI 1) R_1-3 NOTI 1) opAmp IDEALE

-> Determinare V_0

1) Applicando il principio di sov. degli
affetti (PSE)

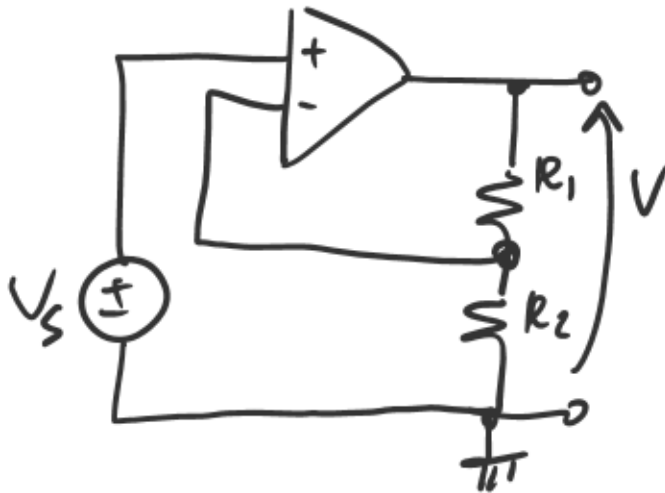
2) ANALISI NODALE MODIFICATA (MNA)
(Proprio)

EX 10.8 (Proprio)



HP
 $\rightarrow V_1 = 1V$
 $\rightarrow V_2 = 2V$
 $\rightarrow R = 200\Omega$
 $\rightarrow i?$

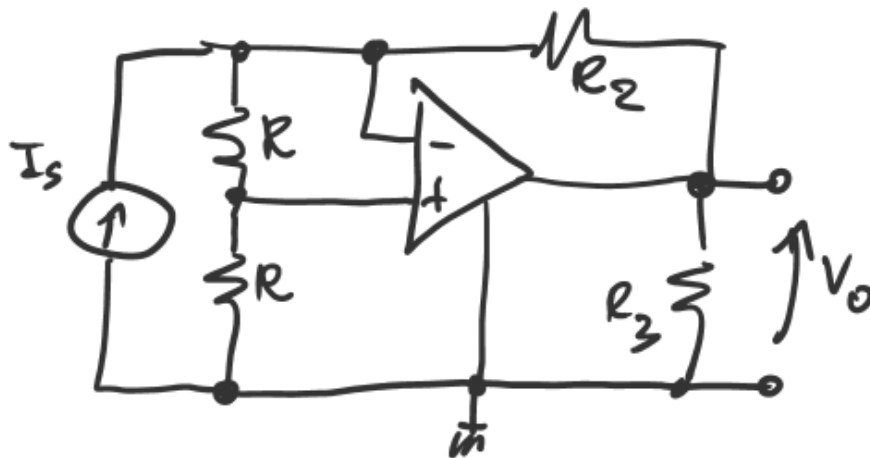
Ex 10.9 (Proportio)



HP

- $V_s = 8V$
- $R_1 = 5\Omega$
- $R_2 = 4\Omega$
- $\rightarrow V?$

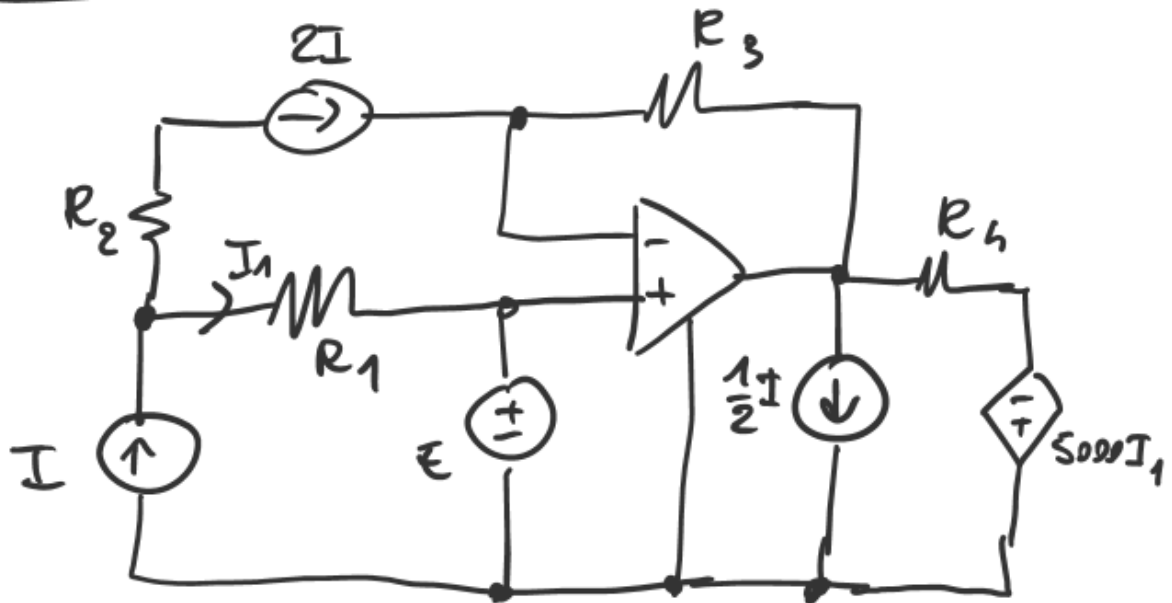
Ex 10.10 (Proportio)



HP

- $I_s = 3mA$
- $R = 1k\Omega$
- $R_2 = 3k\Omega$
- $R_3 = 1k\Omega$
- $\rightarrow V_o?$

Ex 10.11 (proposto) → Risolvere il circuito

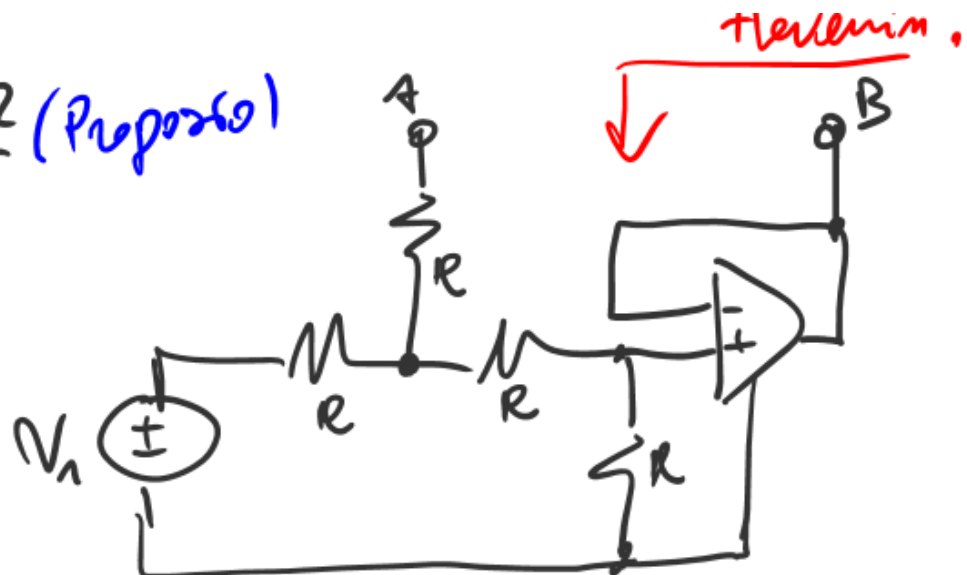


Hp .) $R_{1-4} = 1\text{ k}\Omega$.) $I = 1\text{ mA}$.) $E = 3\text{ V}$ OpAmp
IDEALE

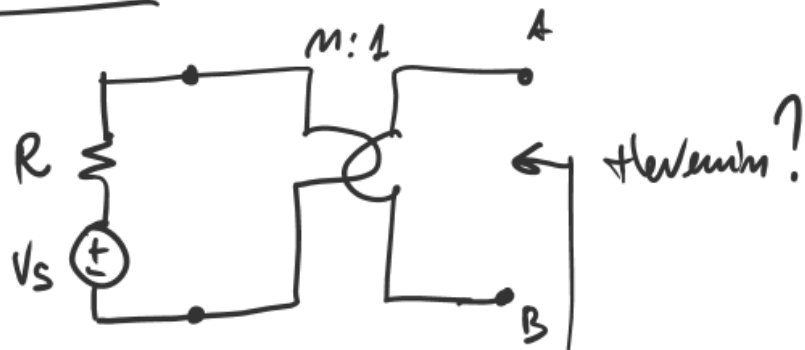
15

Ex 10.12 (proposto)

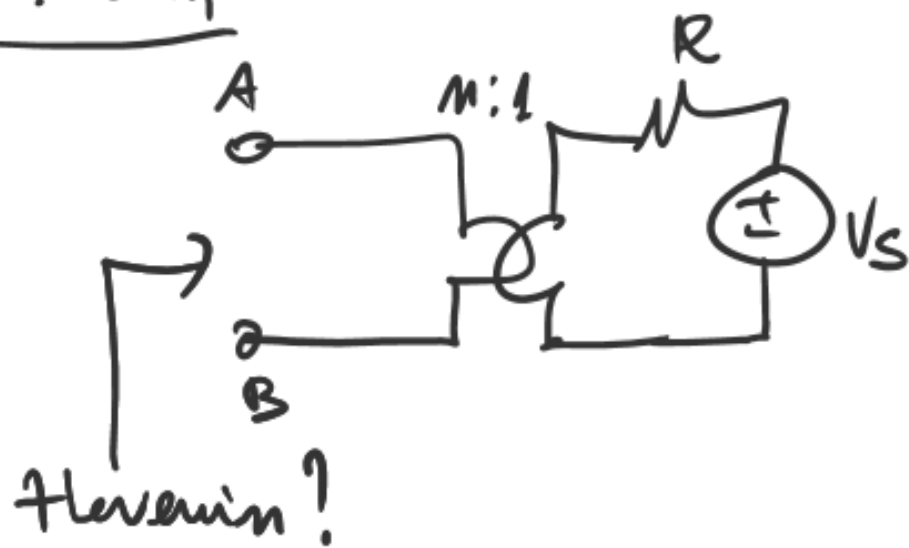
Hp
.) $V_1 = 9\text{ V}$
.) $R = 1\text{ k}\Omega$



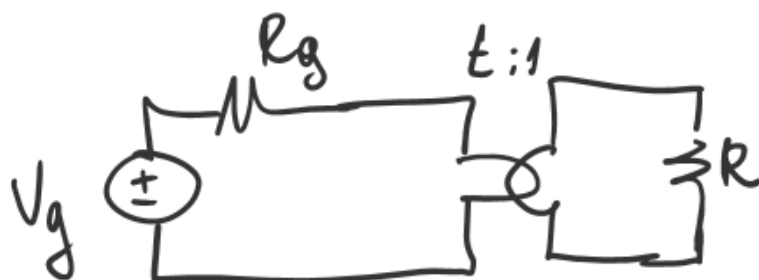
EX 10.13



EX. 10.14



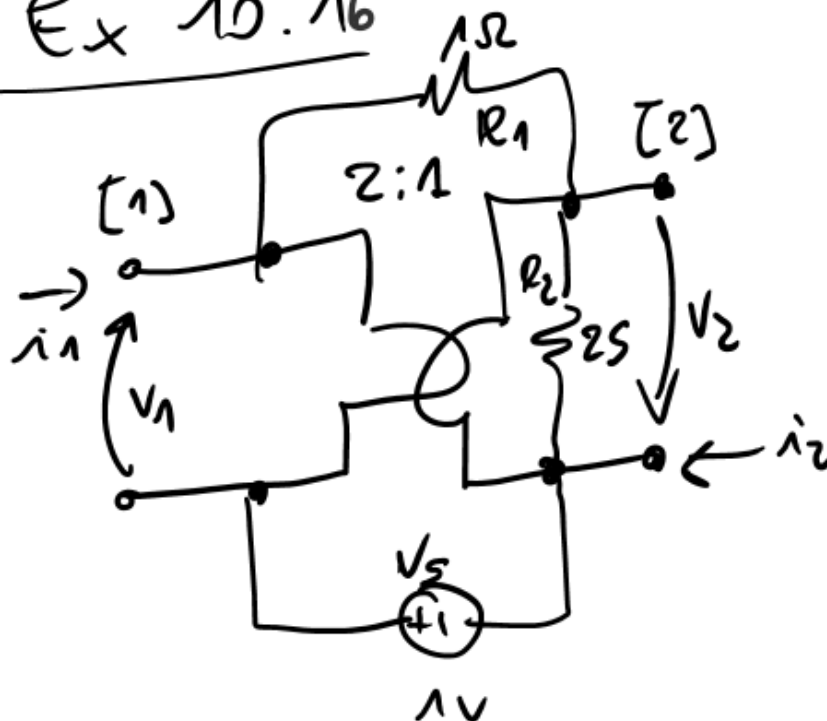
Ex 10.15



Hp
 $V_g = 1V$
 $R_g = 90\Omega$
 $R = 10\Omega$

Determinare il valore del parametro "t", che permette di massimizzare la potenza ceduta al carico R.

Ex 10.16



Hp
 $R_1 = 1\Omega$
 $G_2 = 2S$
 $R_2 = 1/G_2 = \frac{1}{2}\Omega$
 $V_s = 1V$
 TRANSF IDEALE
 $\rightarrow H? G?$