

$$V_{gs} = V_{in} - i_d \cdot R_E = V_{in} - (g_m \cdot V_{gs}) \cdot R_E$$

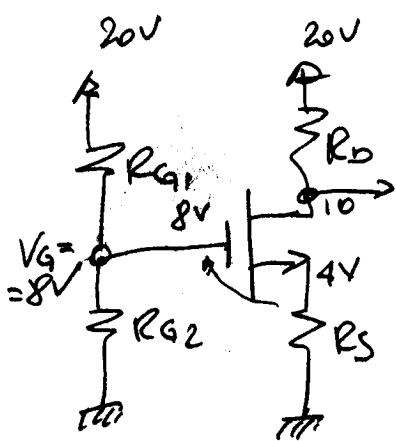
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$$V_{gs} = \frac{V_{in}}{1 + g_m R_E}$$

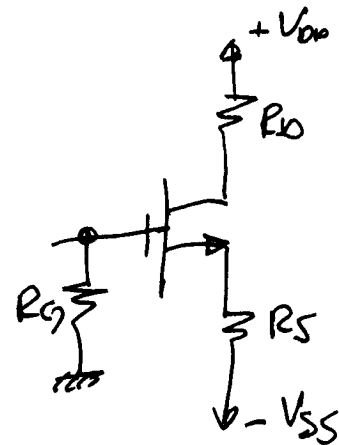
$$V_{out} = i_d \cdot R_d = g_m \cdot V_{gs} \cdot R_d$$

$$V_{out} = \frac{g_m R_d}{1 + g_m R_E} V_{in}$$

$$G \equiv \frac{R_d}{R_E}$$



una
⇒ anche con
2 tensioni.



$$k = 0,25 \text{ mA/V}^2$$

$$V_T = 2 \text{ V}$$

$$I_D = 1 \text{ mA}$$

$$\Rightarrow I_D = k(V_{GS} - V_T)^2 \Rightarrow 1 = 0,25(V_{GS} - 2)^2$$

$$R_S = 4 \text{ k}\Omega \Rightarrow V_G = 8 \text{ V} \rightarrow R_{G1} = 1,2 \text{ M}\Omega$$

$$R_{G2} = 0,8 \text{ M}\Omega$$

$$\text{se } V_D = 10 \text{ V} \Rightarrow R_D = 10 \text{ k}\Omega$$

$$G = \frac{10 \text{ k}\Omega}{4 \text{ k}\Omega}$$

idem fu circuito con 2 tensioni.