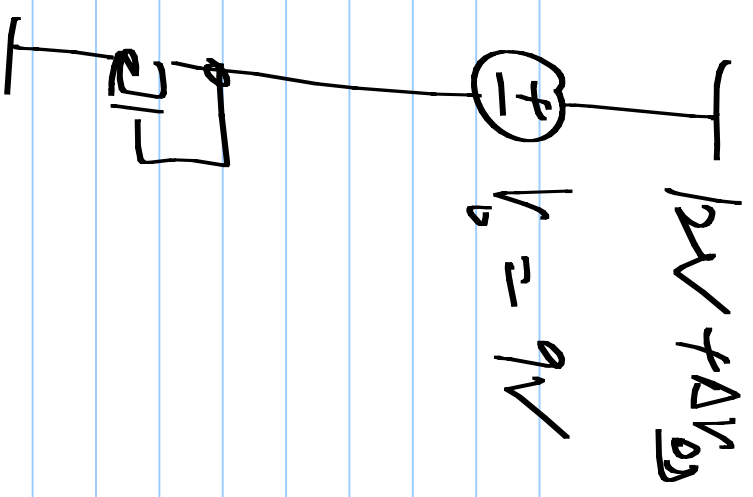
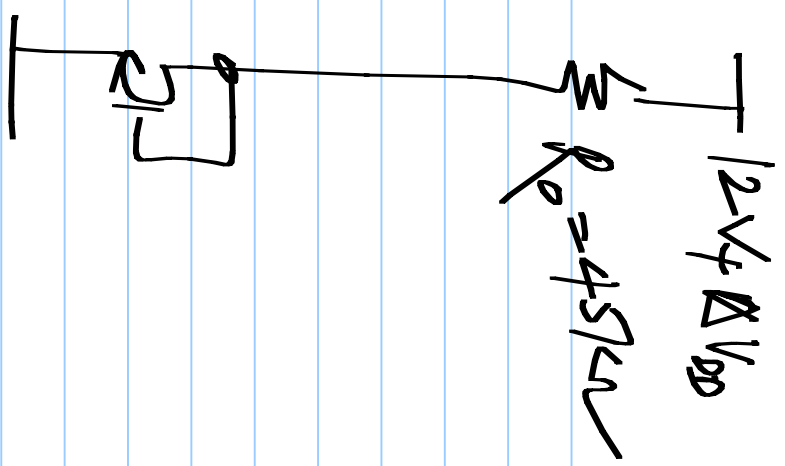
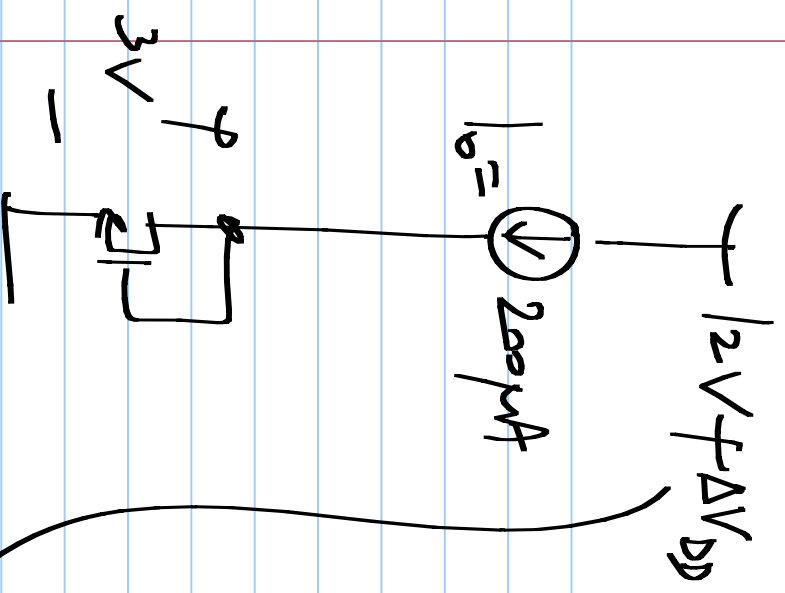
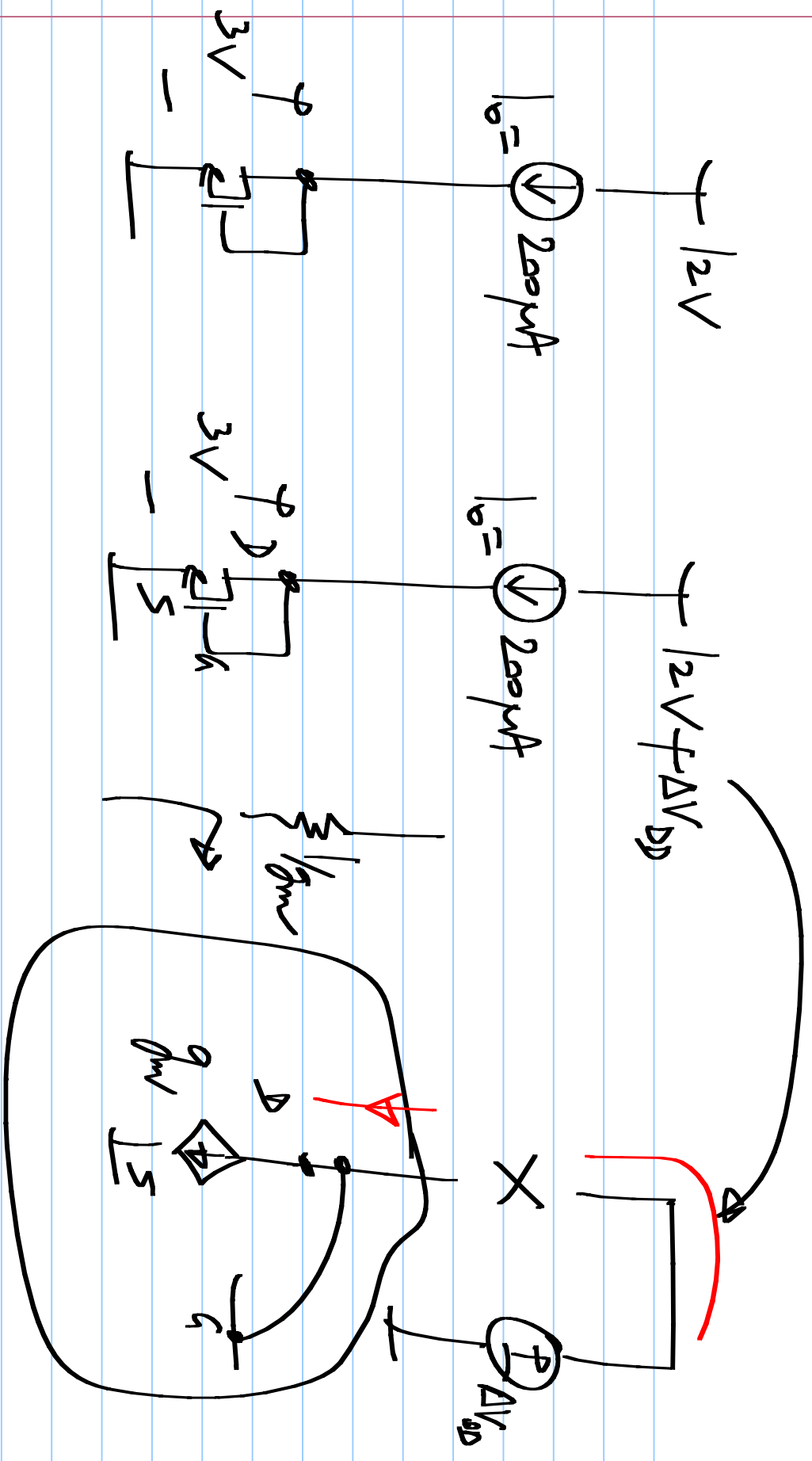
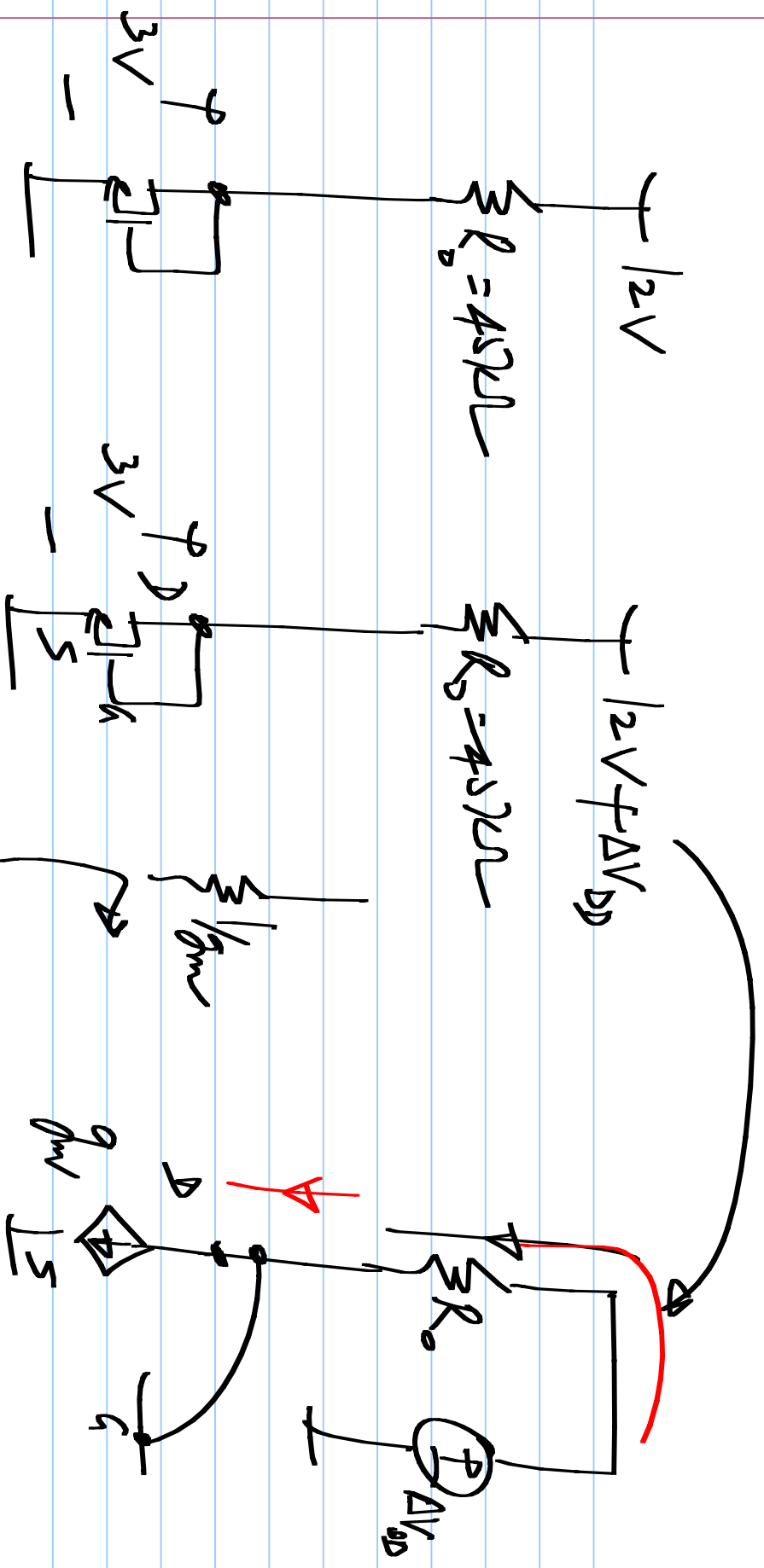




$$N C_{ox} = 100\mu A / V^2$$

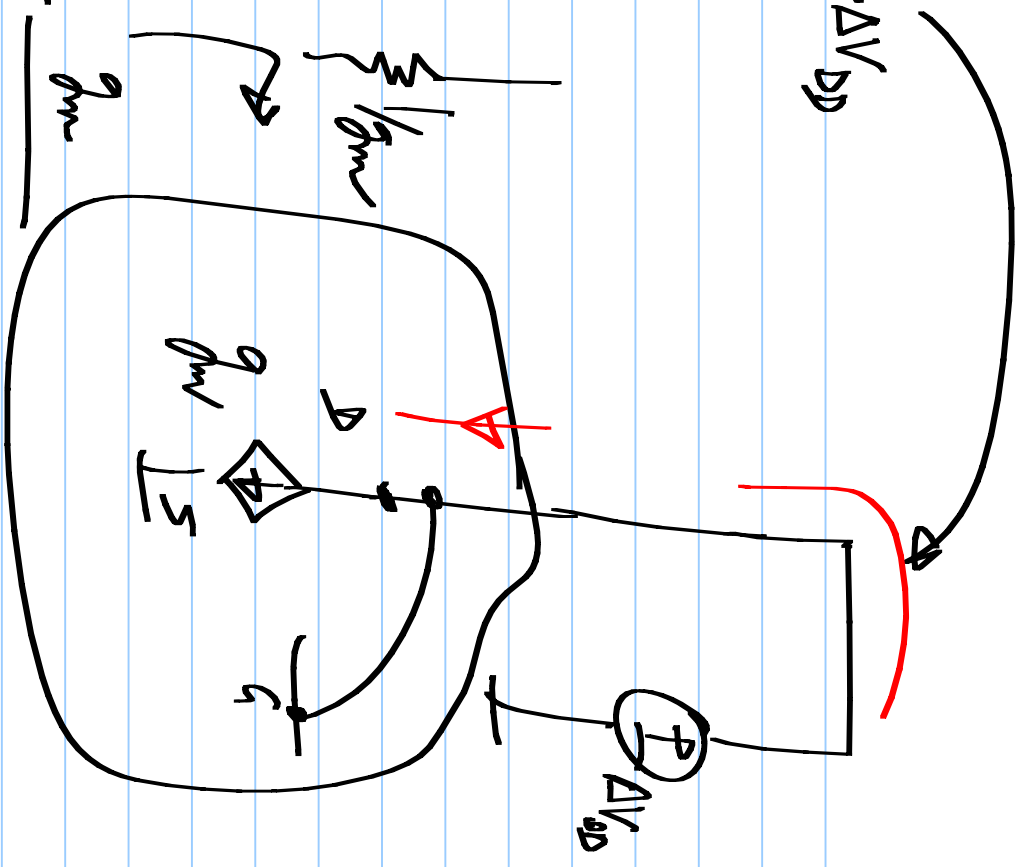
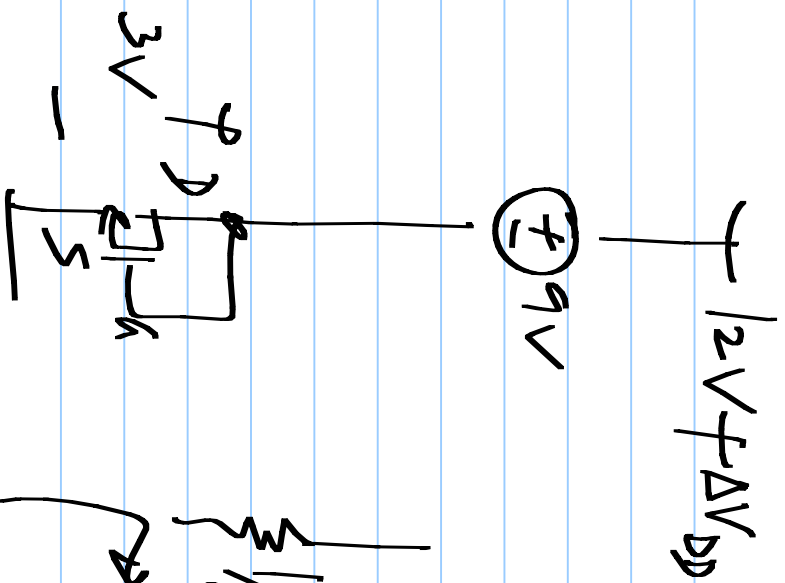
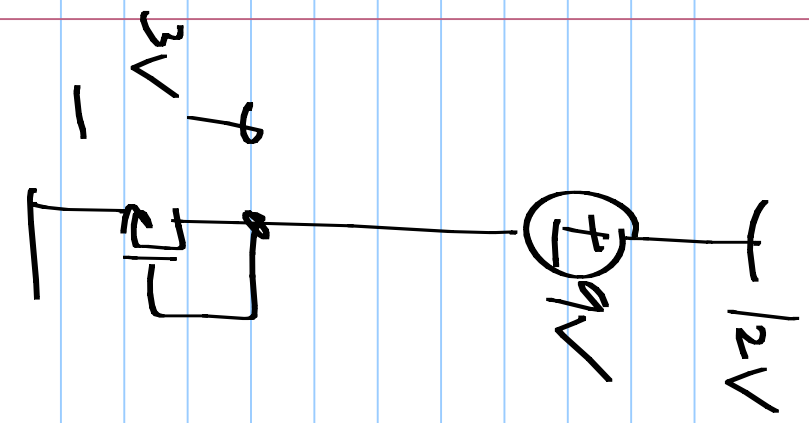
$$V_T = 1V$$





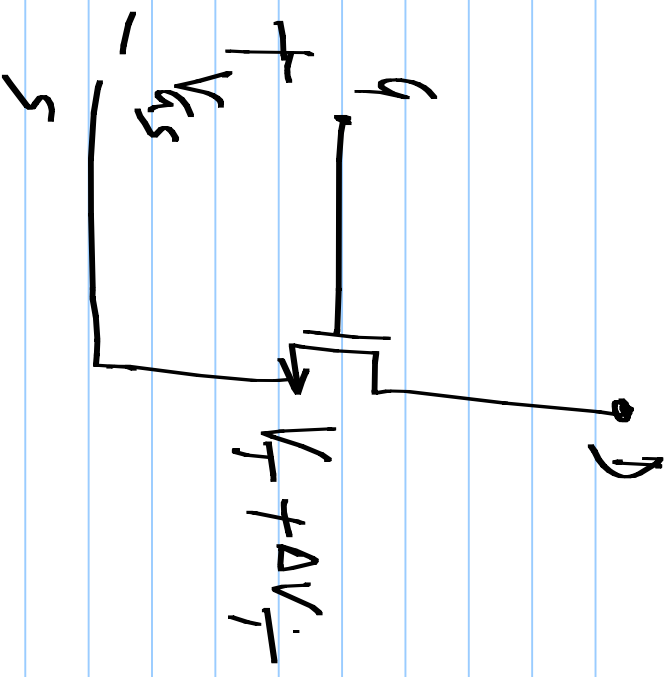
$$A_s = \frac{\Delta V_o}{R_o + 1/g_m}$$

$$\frac{V_o}{\Delta V_o} = \frac{1}{R_o + 1/g_m} =$$

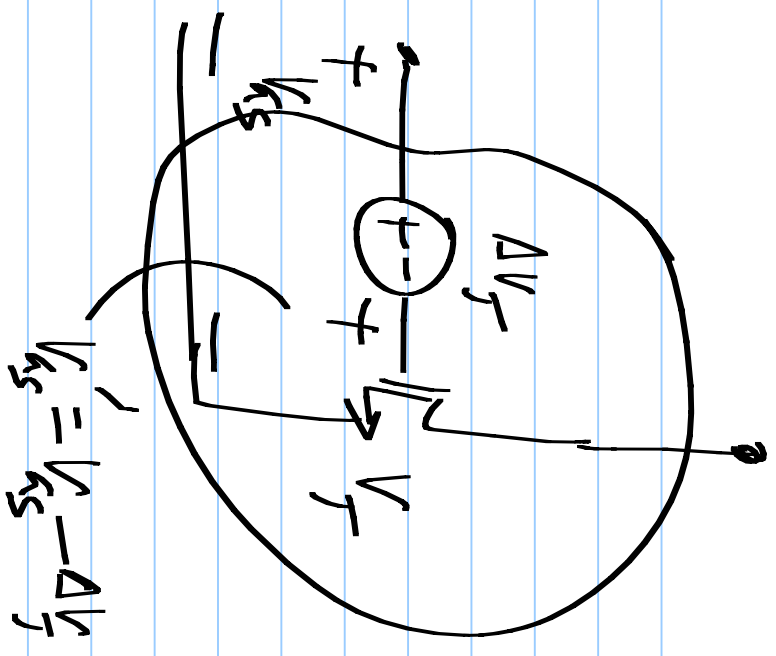


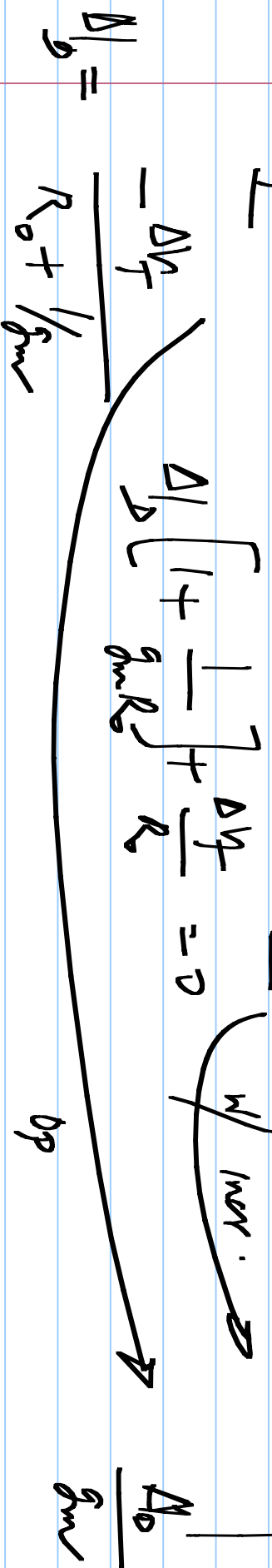
$$\Delta I_D = \Delta V_{DS} \cdot g_m$$

$$\Delta V_{DS} \cdot \frac{g_m}{1 + g_m R_D}$$



≡



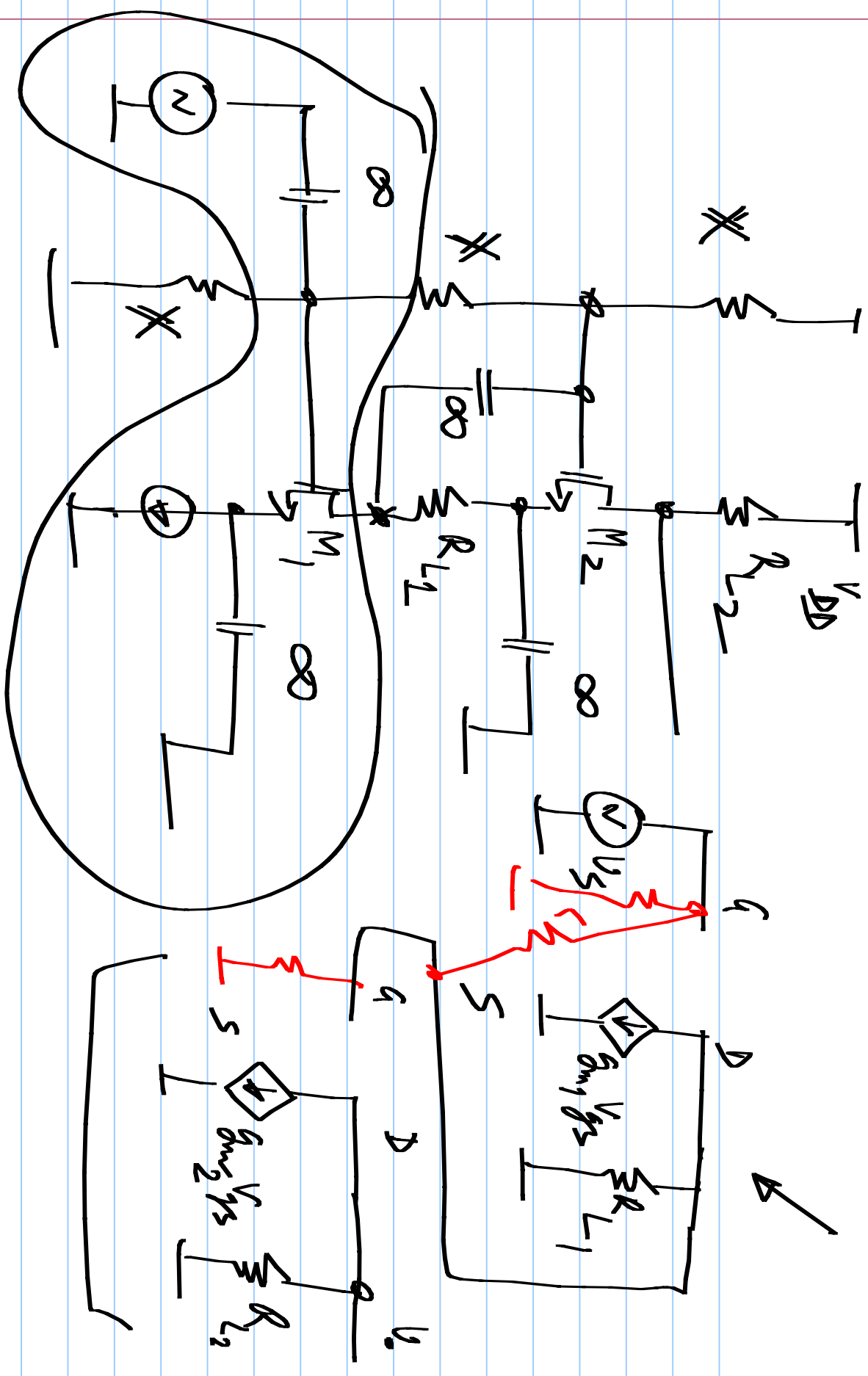


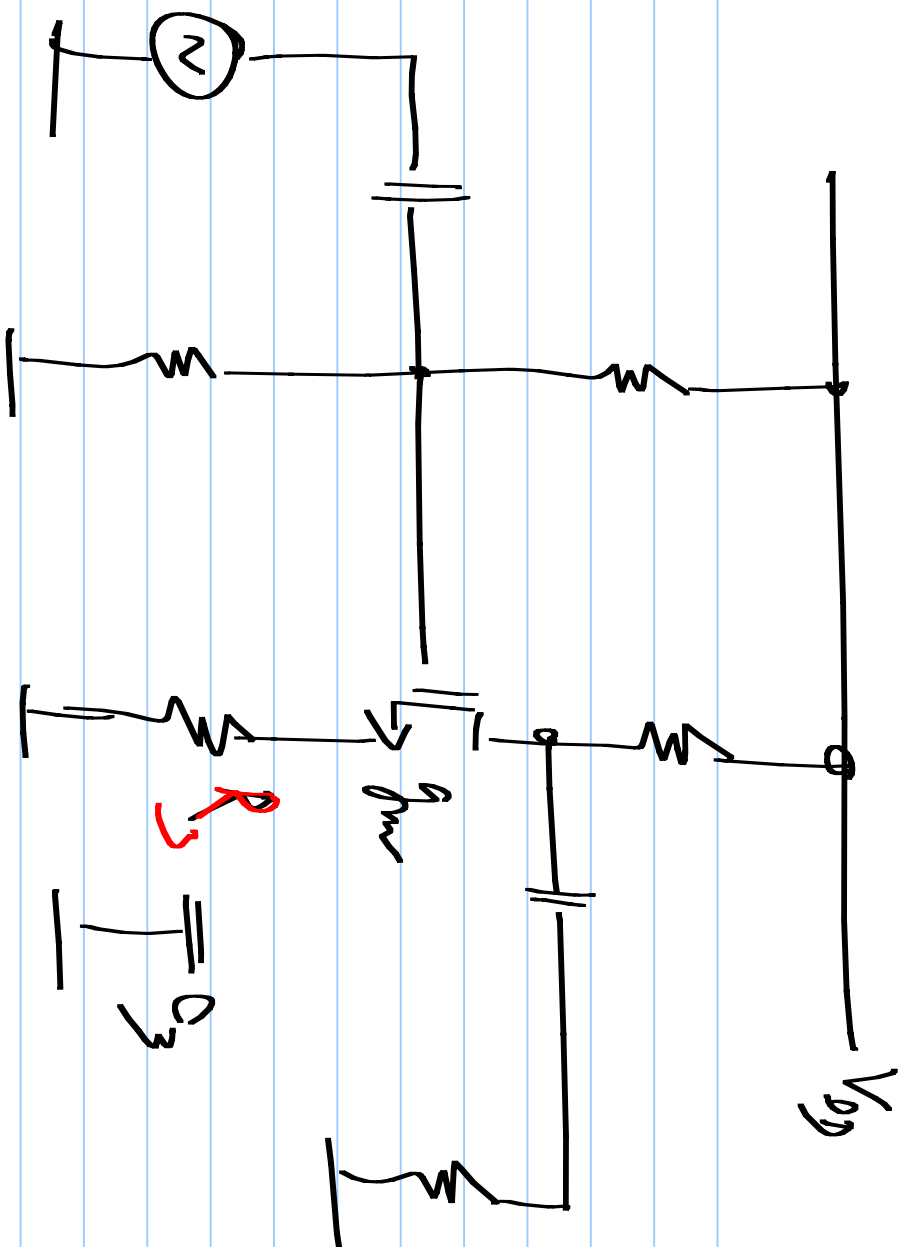
$$\Delta I_D = \frac{-\Delta V_T}{R_o + 1/g_m} \quad \Delta I_D \left[1 + \frac{1}{g_m R_o} \right] + \frac{\Delta V_T}{R_o} = 0 \quad \frac{V_T}{I_{DQ}} \cdot \frac{I_{DQ}}{V_T} \rightarrow \frac{\Delta I_D}{I_{DQ}} = \frac{\Delta V_T}{V_T} \rightarrow \frac{\Delta I_D}{I_{DQ}} = \frac{\Delta V_T}{V_T}$$

$$I_g = \frac{M_{ox}}{2} \frac{1}{E} (V_{gs} - V_T)^2$$

$$\frac{dI_D}{dV_T} = - M_{ox} \frac{1}{L} (V_{gs} - V_T) = -g_m$$

$$\frac{\Delta I_D}{\Delta V_T} = \frac{-1}{R_o + 1/g_m} = \frac{-g_m}{(1 + g_m R_o)}$$





$$-g_m R_{D||L} \over (1 + g_m R_3)$$