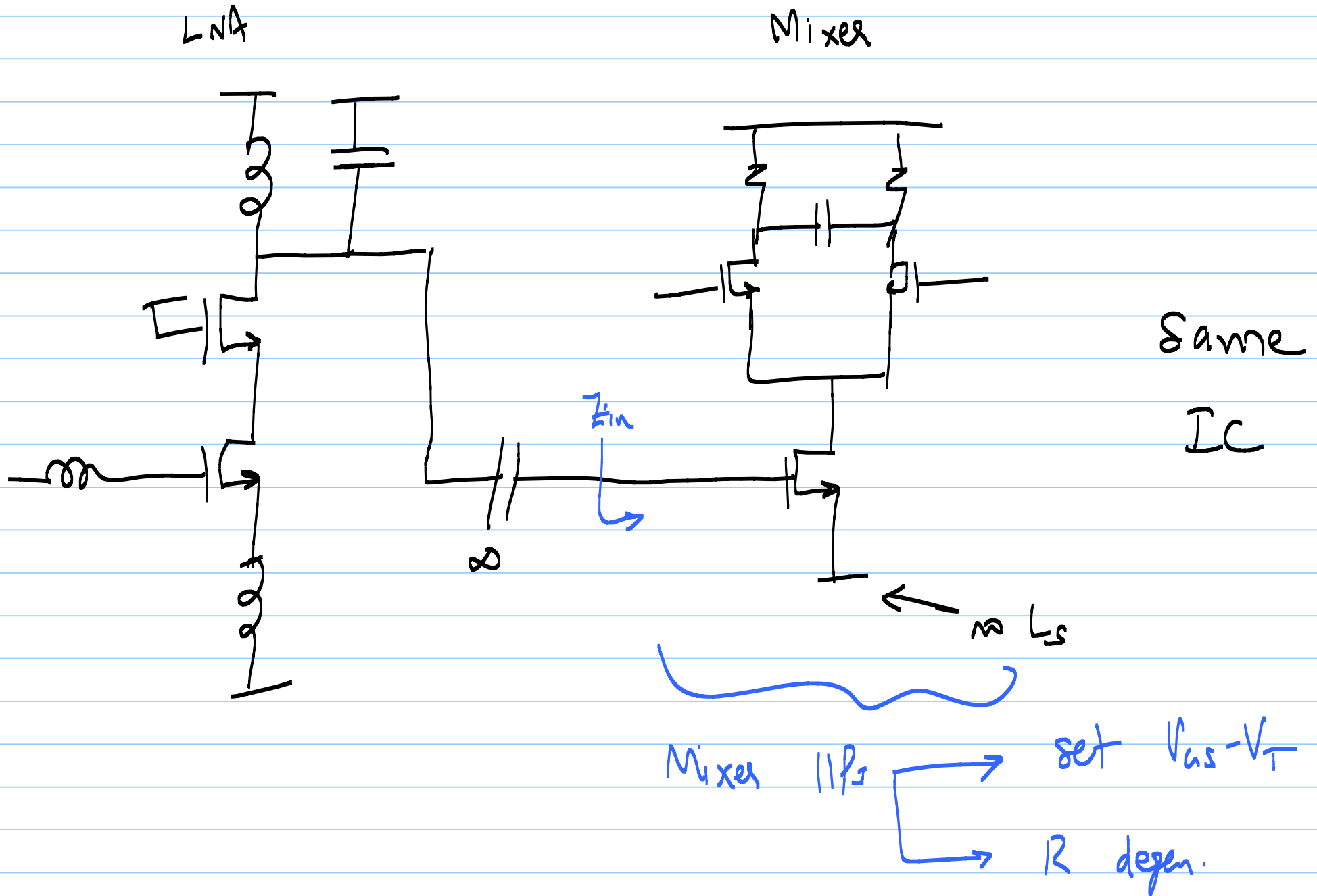
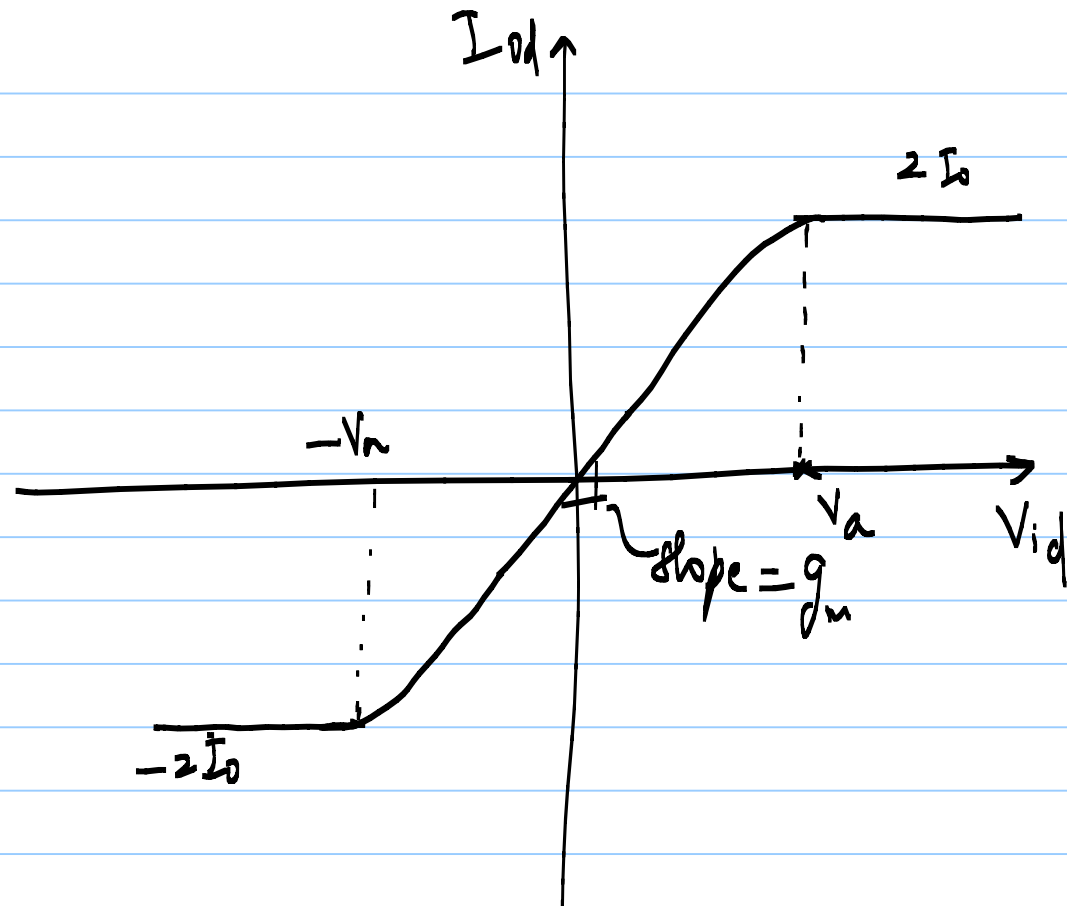
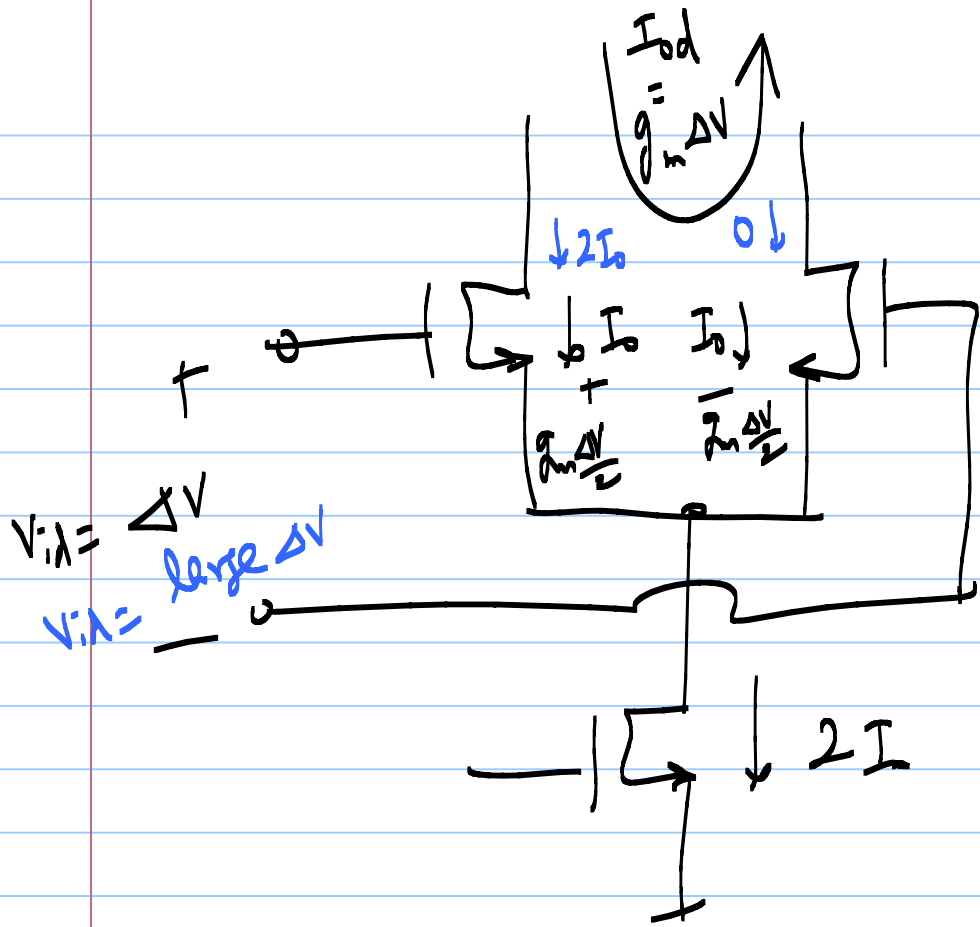


17/03/2022

Lecture 3





$V_a = ?$ V_{id} @ which $I_1 = 2I_0$
 $I_2 = 0$

$$I_1 + I_2 = 2I_0$$

$$V_{id} = V_{as1} - V_{as2}$$

$$I_1 = \frac{k'}{2} (V_{as1} - V_T)^2$$

$$I_2 = \frac{k'}{2} (V_{as2} - V_T)^2$$

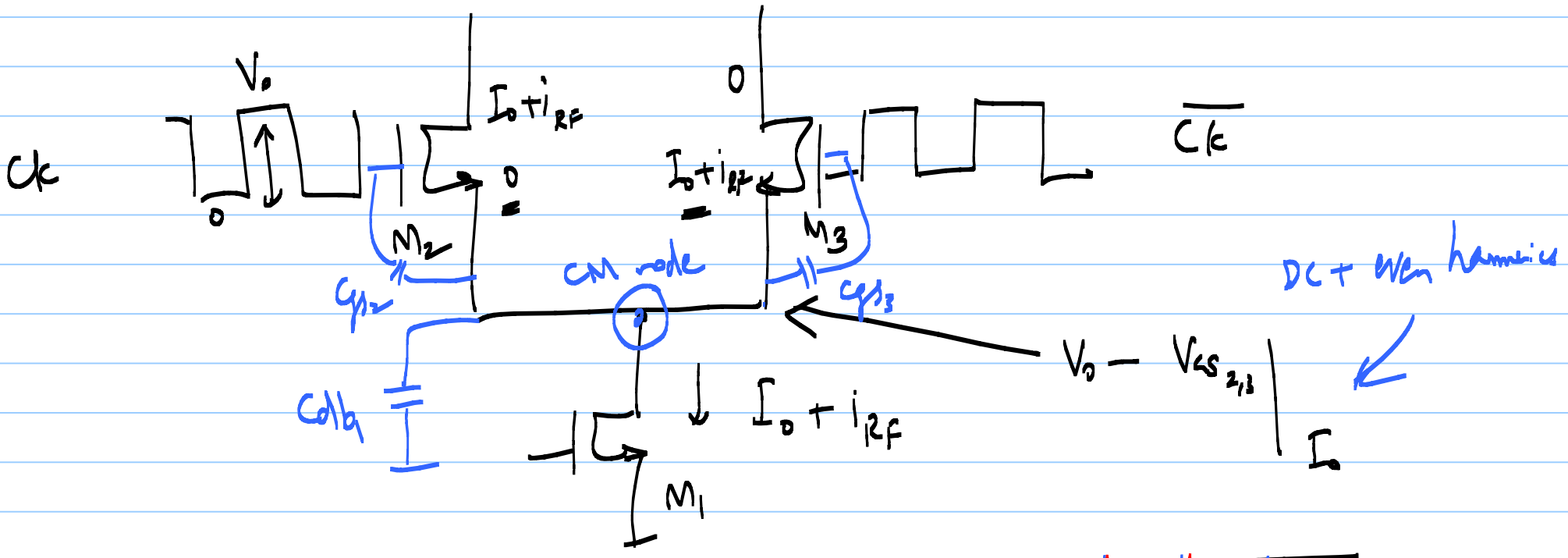
$$I_{od} = f(V_{id})$$

is what we want

you will find

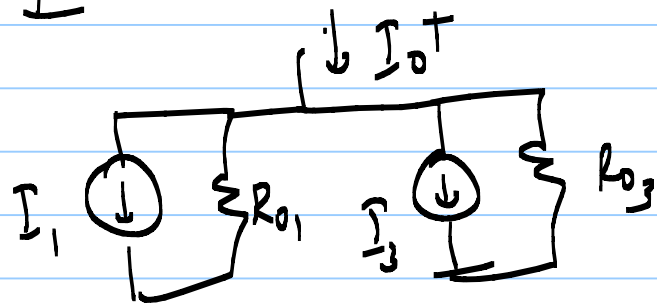
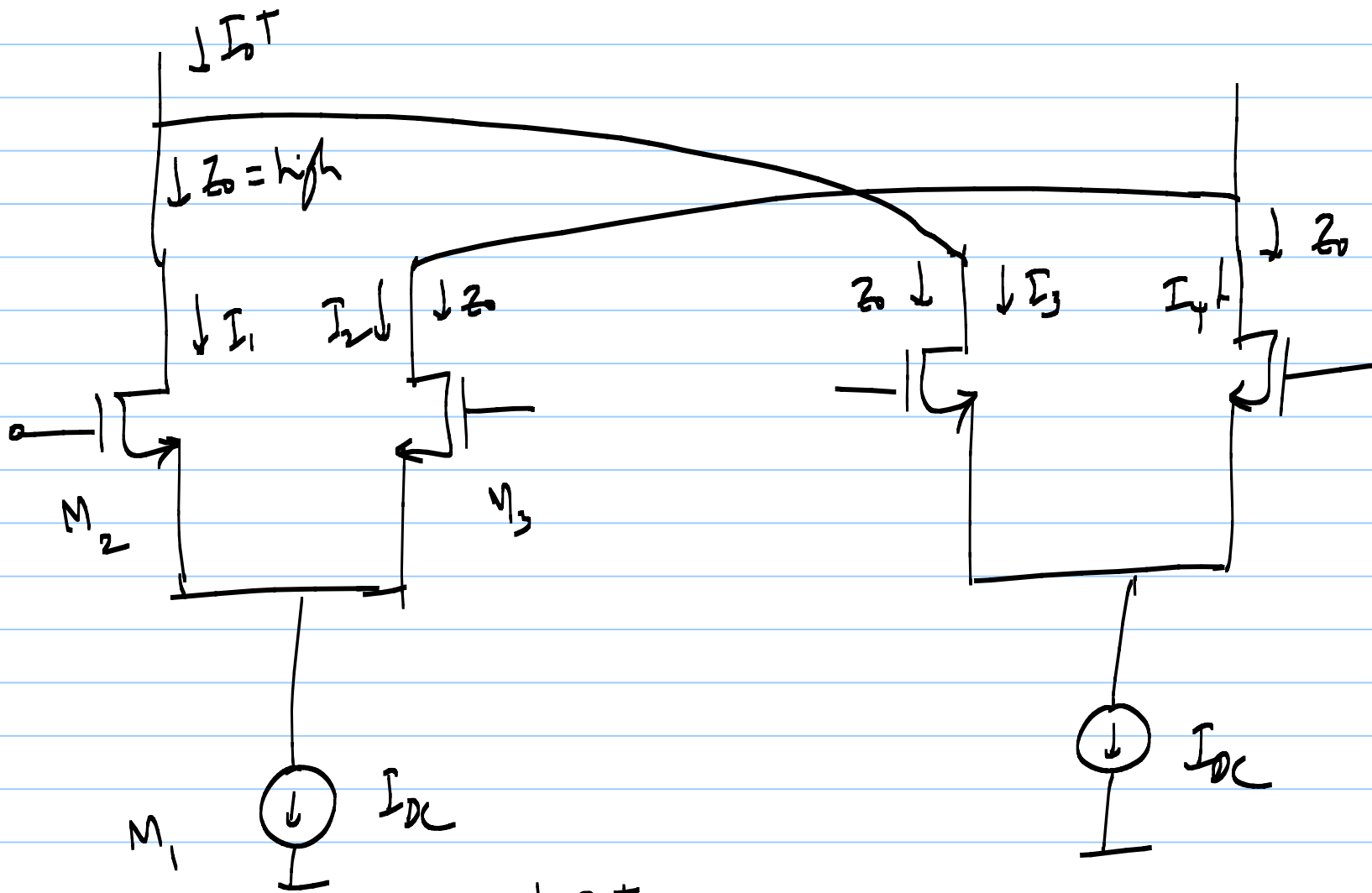
$$V_n = \sqrt{2} V_{Dsat}$$

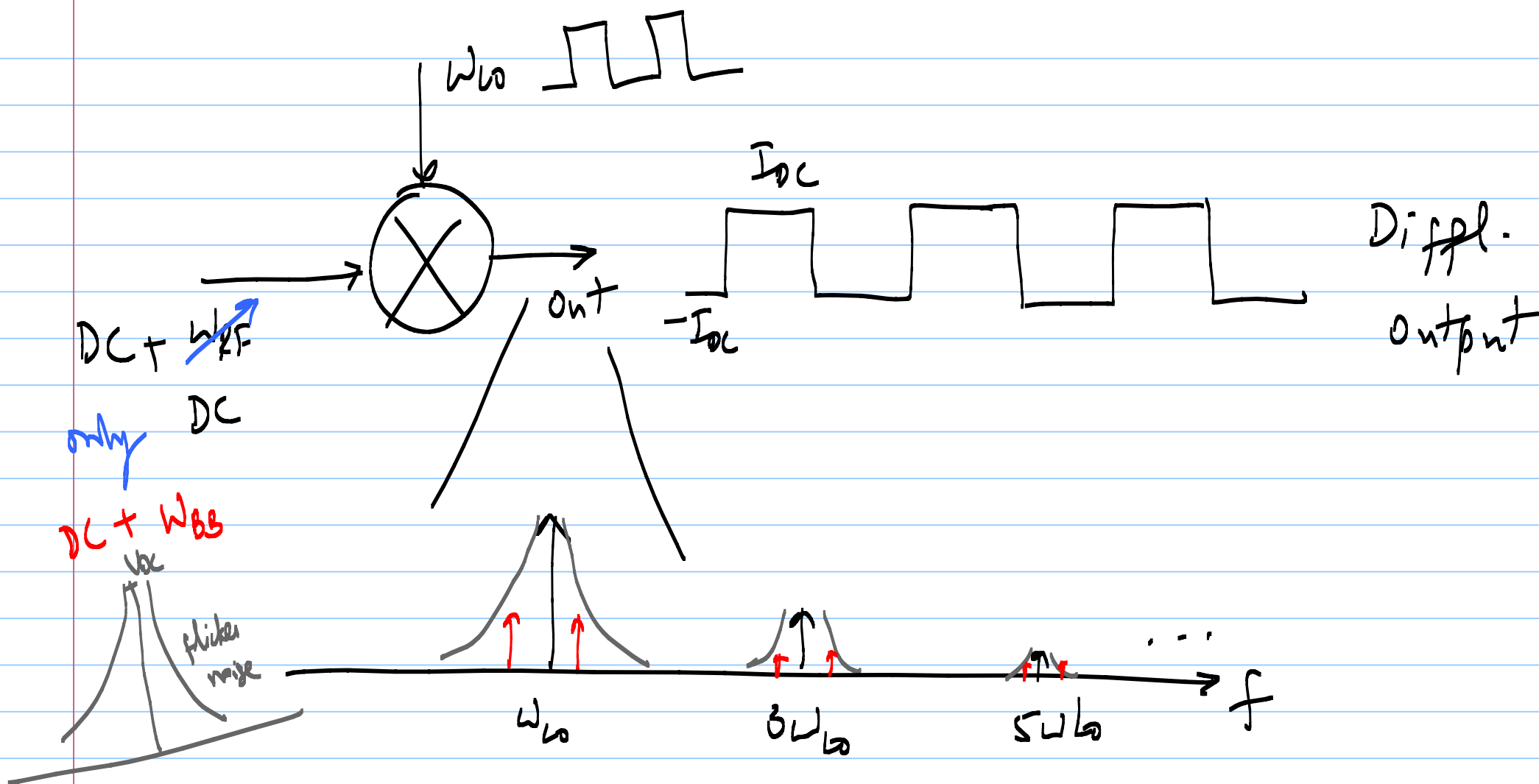
$$\sqrt{\frac{2 I_0}{k'}}$$

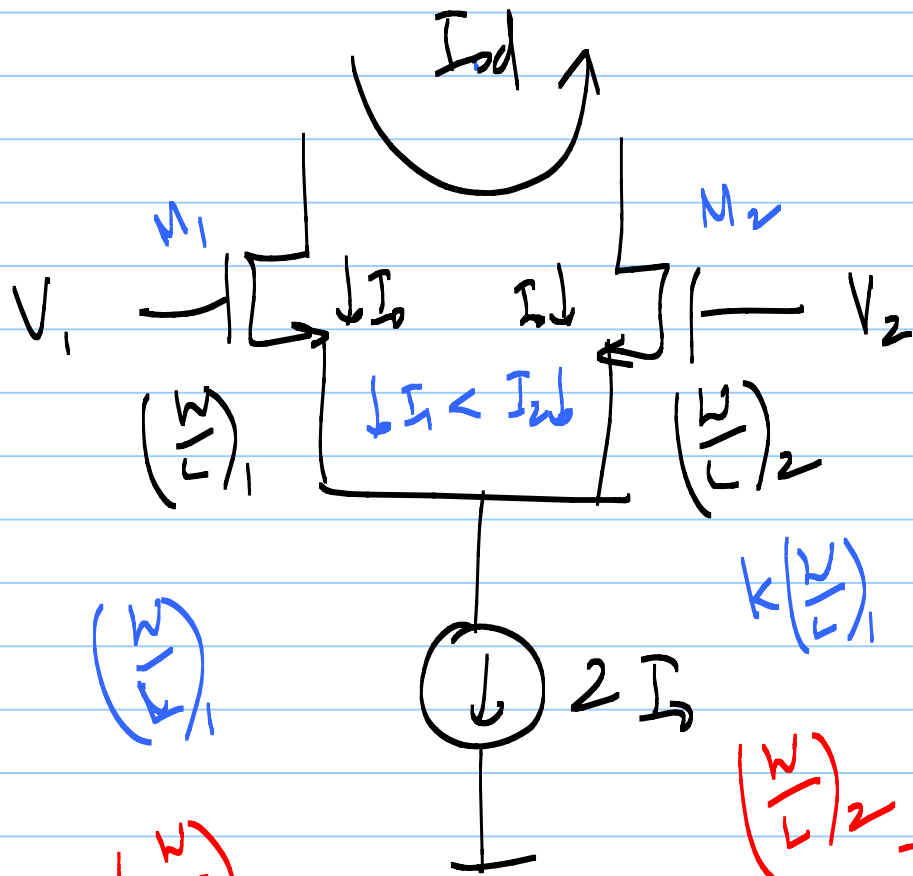


DC + even harmonics









$$V_1 - V_2 = V_{id}$$

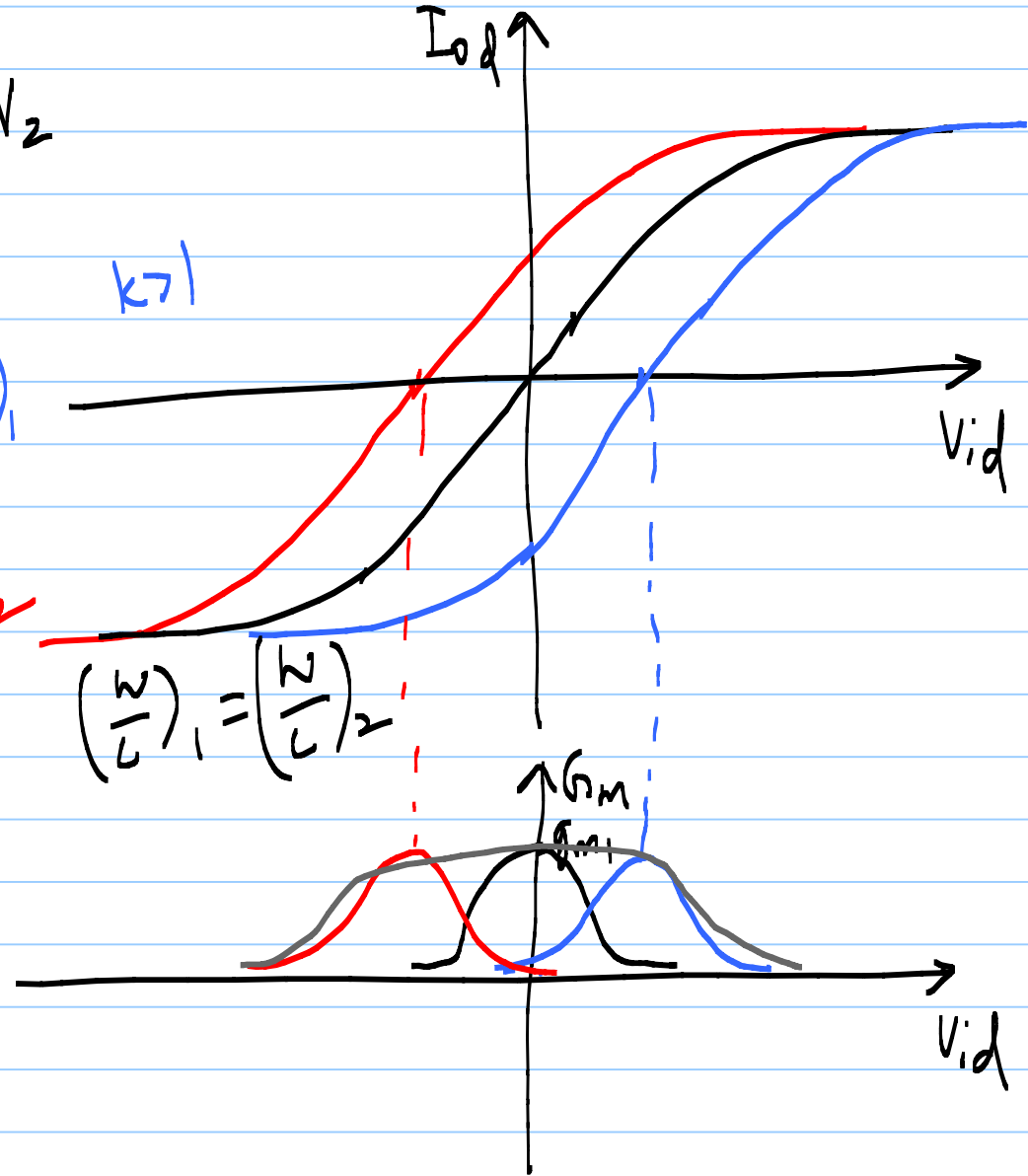
$$k \left(\frac{W}{L}\right)_2$$

$k > 1$

$$k \left(\frac{W}{L}\right)_1$$

$$\left(\frac{W}{L}\right)_2$$

$$\left(\frac{W}{L}\right)_1 = \left(\frac{W}{L}\right)_2$$



BJT \rightarrow I_{Dd} vs V_{id} is tanh