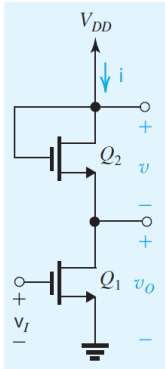


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Module Quiz 6B (10 pts, close book & note)  
Week 7 Wed, Winter 2017

(a) Assume  $V_{DD}=5\text{ V}$ ,  $V_{tn} = 1\text{ V}$ ,  $k_{n1}=1\text{ mA/V}^2$ ,  $k_{n2}=1.2\text{ mA/V}^2$  calculate  $V_{oh}$  and  $V_{ol}$ . (5 pts)



(b) Calculate power dissipation assuming inverter spends 50% time in high and 50% in low (5 pts)

(c) We want to make  $V_{ol} = 0\text{ V}$ , what should the value of  $k_{n2}$  be?

