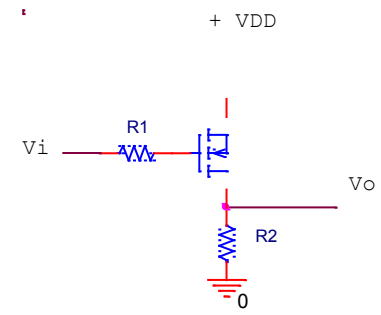
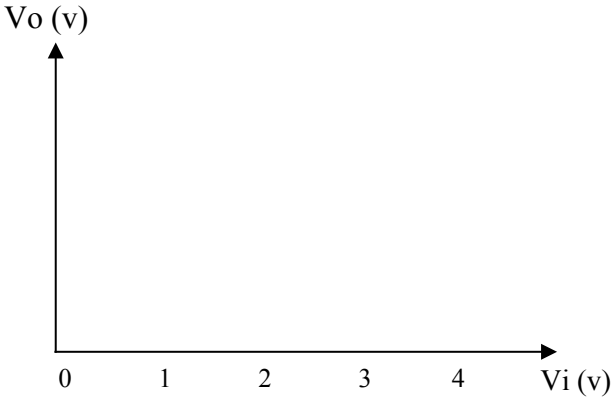
Q1 Given: p channel enhancement mode MOSFET circuit below with
V_{TP} **= -1V,** K_N **= 1.0 mA/V^2, VDD = 5V,** R_2 **= 500Ω,** R_1 **= 10KΩ**
Find : V_o (complete the table) and **sketch Vo vs. Vi**

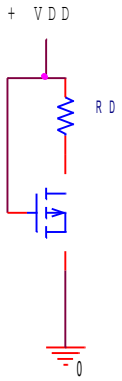


P Channel Enhancement Mode MOSFET

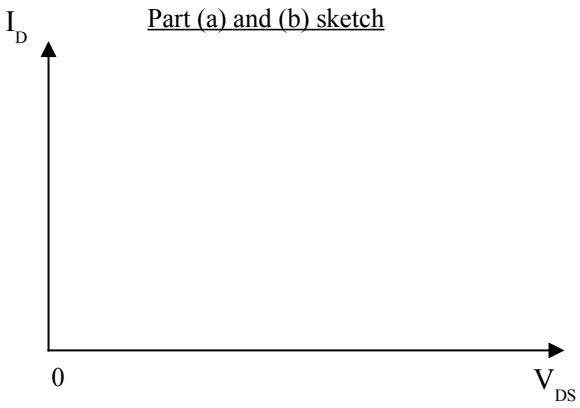
V_i DC volts	V_o DC volts
0	
2	
4	



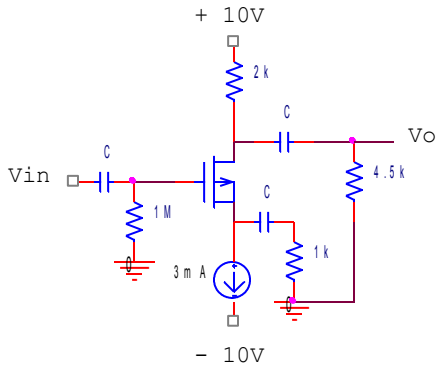
Q2 Given: $K_n = 0.25$ mA/V^2, $V_{TN} = 0.8$V, $V_{DD} = 4$V, $R_D = 1$KΩ
Find: Sketch the load line and plot the Q point.



N Channel Enhancement Mode MOSFET



Q3 Given: N channel enhancement mode MOSFET with V_{TN} = 1.0V, $K_N = 0.2$ ma/V^2, $\lambda = 0$.
Find: Sketch the small signal model (Assume caps are AC short circuits)


+ 10V
2 k
C
Vo
Vin
C
4.5 k
C
1 M
1 k
3 m A
- 10V