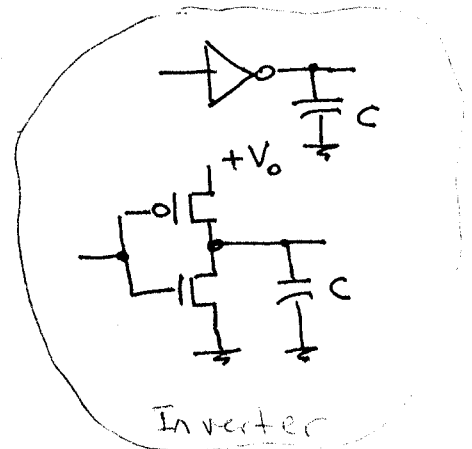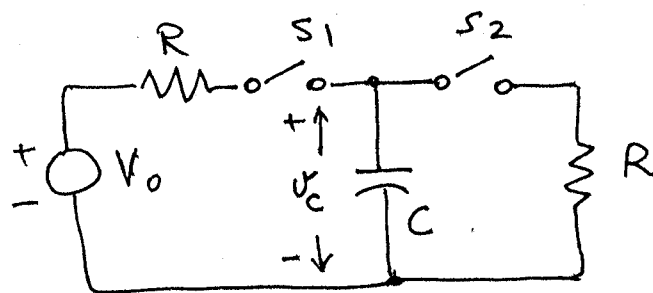Your Name:_____

Problem #1: Digital CMOS inverter can be approximated as a circuit given in the figure.

(a.) find the expression for the voltage V_c (as a function of time t) when switch S1 is ON and S2 is off. Assume that the capacitor C was completely discharged before S1 was turned ON. Draw a graph of V_c (t)

(b.) find the expression for the voltage V_c (as a function of time t) when (after sufficient time has elapsed to charge the capacitor C fully) the switch S1 is turned off and switch S2 is turned on. Draw a graph: V_c(t)

Note: this is the first grade college physics (Sears & Zemansky) problem (for some of you perhaps a high-school problem). (12 th grade)

Inverter

Problems: