

Special Problem 4.10-3

For **the two** questions below, use these values:

A CMOS inverter uses FETs with $K = 1.0 \text{ mA/V}^2$ and $V_T = 3.0 \text{ V}$.

The inverter also has $V_{DD} = 10 \text{ V}$

- 1) What is the **smallest** value of V_I that will produce an acceptably low voltage at the inverter **output** (i.e., an output voltage that will be evaluated as a **logic 0**) ?
- 2) If $V_I = 5.0 \text{ V}$, what is the **drain current** of the NMOS transistor?