MOS Device Data.

\[ \mu_N C_{ox} = 50 \mu A/V^2, \quad \mu_P C_{ox} = 25 \mu A/V^2, \quad V_{Tn} = 1V, \quad V_{Tp} = -1V, \quad -2\phi_p = 0.84V \]

\[ 2\phi_n = 0.84V, \quad \gamma_n = 0.6V^{1/2}, \quad \gamma_p = 0.6V^{1/2}, \quad \frac{\lambda_n}{L} = 0.1 V^{-1}, \quad \frac{\lambda_p}{L} = 0.1 \mu m V^{-1} \quad [L \text{ in } \mu m] \]

1. Given an PMOS inverter shown in Figure T7.1 with a pull down resistor of 10 kΩ and \( V_{DD} = 5.0 \) V. Assume the bulk is tied to the source.
   (a) Find \( V_{OH} \) with \( (W/L) = (10 \mu m / 1 \mu m) \).
   (b) Calculate \( N_{MH} \) and \( N_{ML} \) using the simplified hand calculation presented in lecture.

![Figure T7.1](image-url)