Special Problem 5.5-5

For the transistor below:

\[ K = 1.0 \text{ mA/V}^2 \]

\[ V_t = 1.0 \text{ V} \]

\[ \lambda = 0.0 \text{ V}^{-1} \]

Find the small-signal voltage gain \( A_v = \frac{v_o}{v_i} \) of the amplifier below.