Special Problem 6.6-1

For the **differential amplifier** shown below, the **DC** components of v_{I1} and v_{I2} are **equal**.

Both transistors Q_1 and Q_2 are in **saturation**.

The transistors are identical, with **K= 1mA/V^2** and **V$_t$ = 1.0 V**

Find the **small signal differential gain A$_d$ = v_{o1}/v_d** for the differential amplifier shown below.