

SATURATION

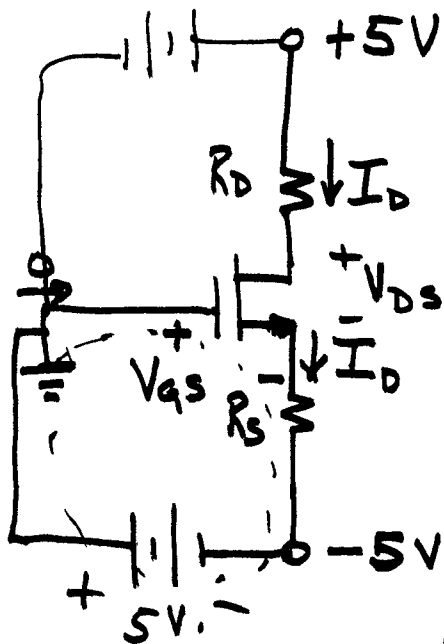
$$V_{DS} > V_{GS} - V_{TN} \quad \checkmark$$

$$I_D = K_m (V_{GS} - V_{TN})^2$$

$$V_{DS} = V_{GS}$$

$$V_{DS} = V_{DD} - I_D R_D$$

$$I_D = K_m (V_{DD} - I_D R_D - V_{TN})^2$$



$$\text{KVL: } V_{GS} + I_D R_S - 5 = 0$$

$$I_D = K_m (V_{GS} - V_{TN})^2$$

SOLVE FOR I_D

$$V_{DS} = 10 - I_D (R_D + R_S)$$

