

Perform Small Signal Analysis on the Circuits.

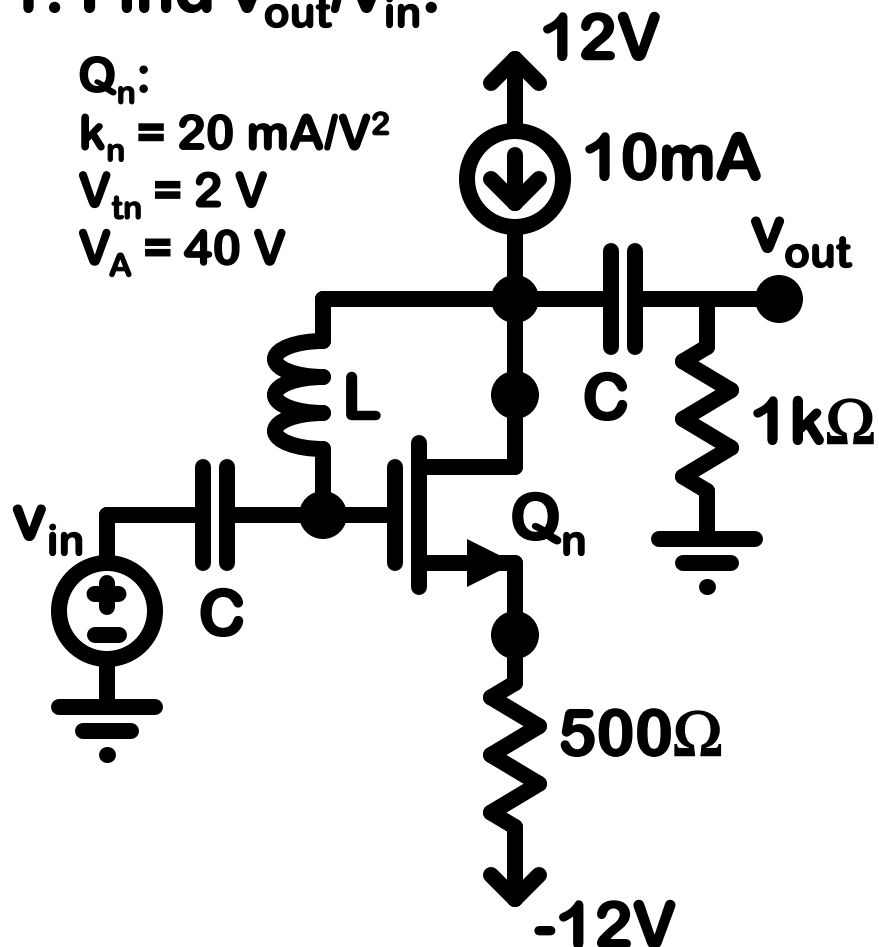
1. Find v_{out}/v_{in} .

Q_n :

$$k_n = 20 \text{ mA/V}^2$$

$$V_{tn} = 2 \text{ V}$$

$$V_A = 40 \text{ V}$$



Draw the equivalent
PMOS circuit.

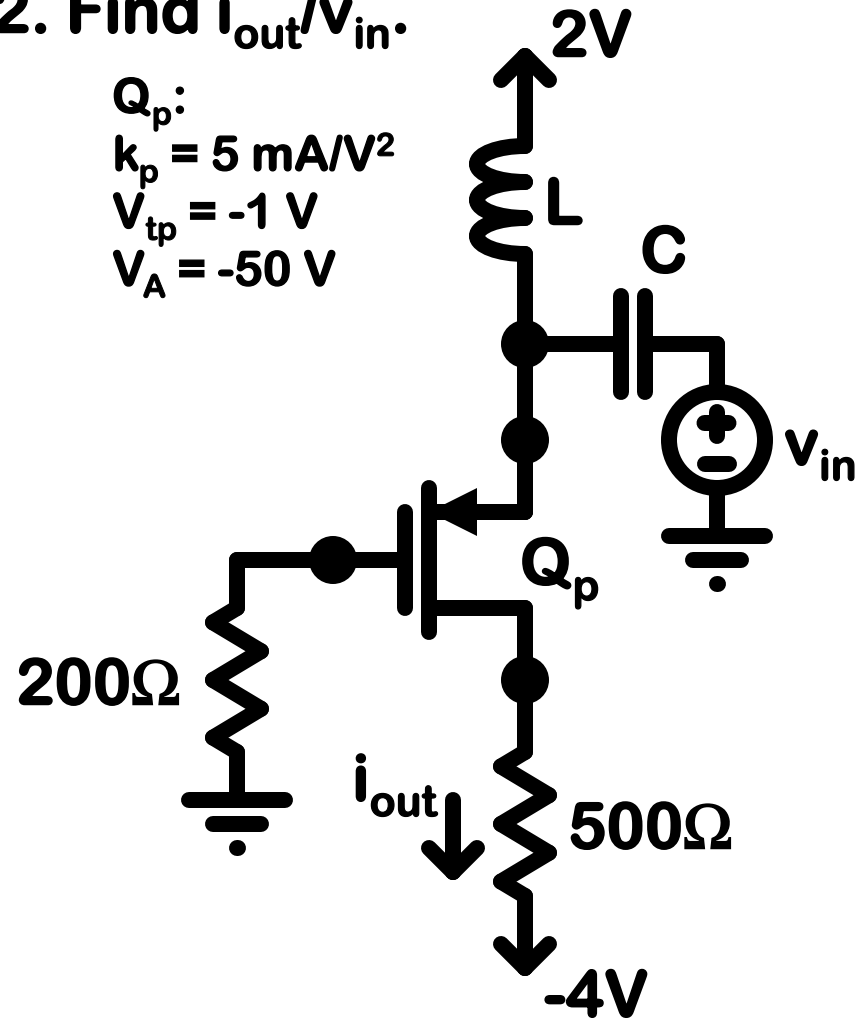
2. Find i_{out}/v_{in} .

Q_p :

$$k_p = 5 \text{ mA/V}^2$$

$$V_{tp} = -1 \text{ V}$$

$$V_A = -50 \text{ V}$$



Draw the equivalent
NMOS circuit.

**Draw the Large and Small Signal Circuits.
Include r_o in the Small Signal Circuit.**

