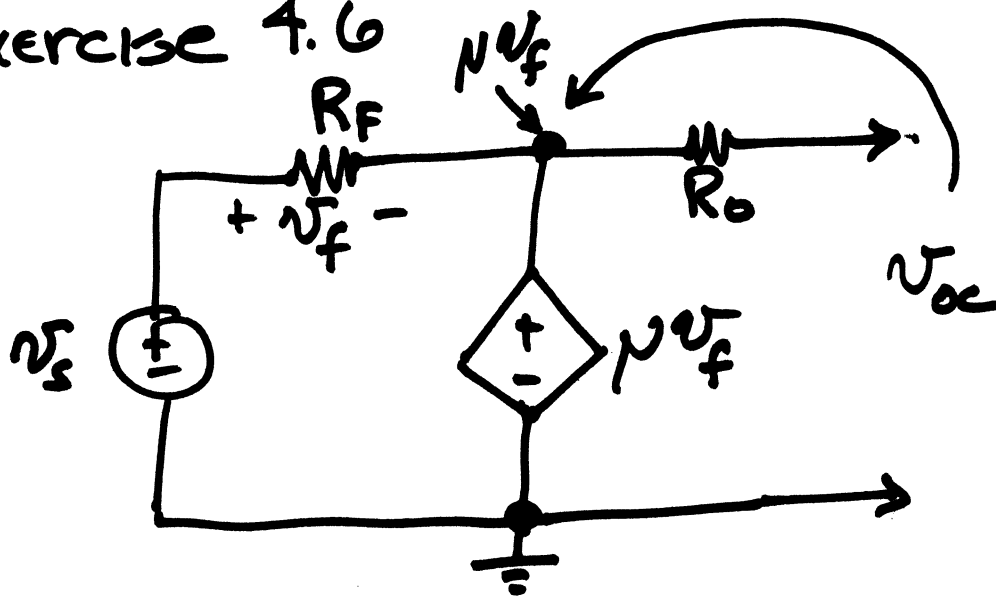


# Thévenin & Norton.

## Exercise 4.6

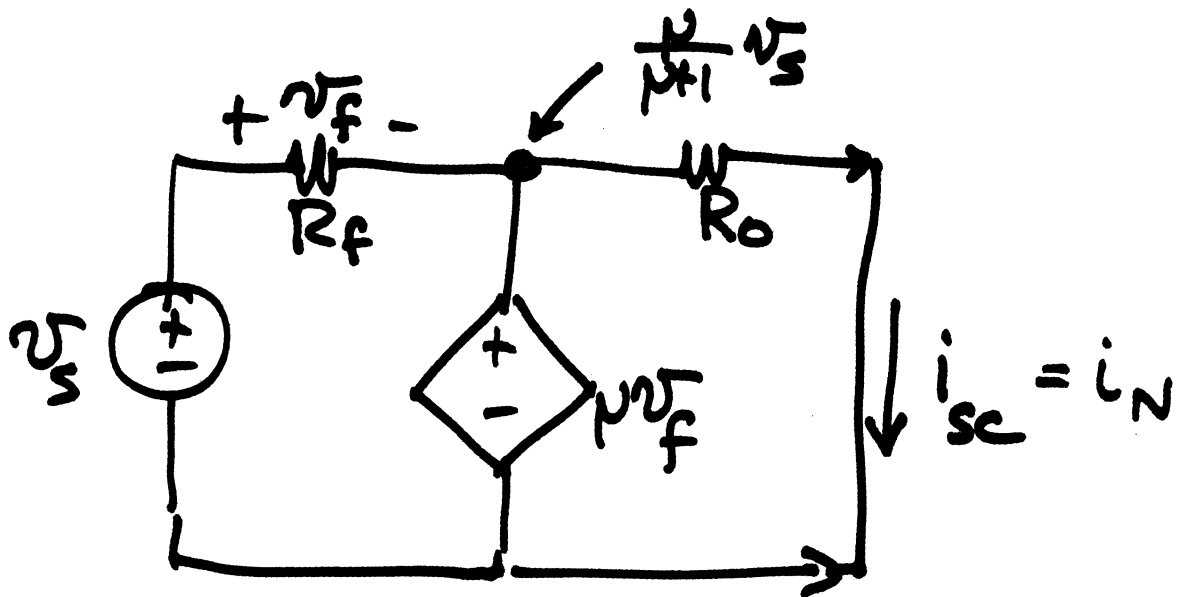


KVL  $-v_s + v_f + \mu v_f = 0$

$$(1 + \mu)v_f = v_s$$

$$v_f = \frac{v_s}{1 + \mu}$$

$$\mu v_f = \mu \left( \frac{v_s}{1 + \mu} \right) = \frac{\mu}{\mu + 1} v_s = v_o = v_T$$

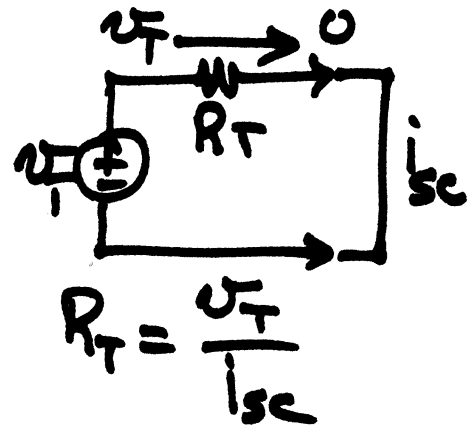


input remains the same.

$$u_f = \frac{u_s}{1+\mu}$$

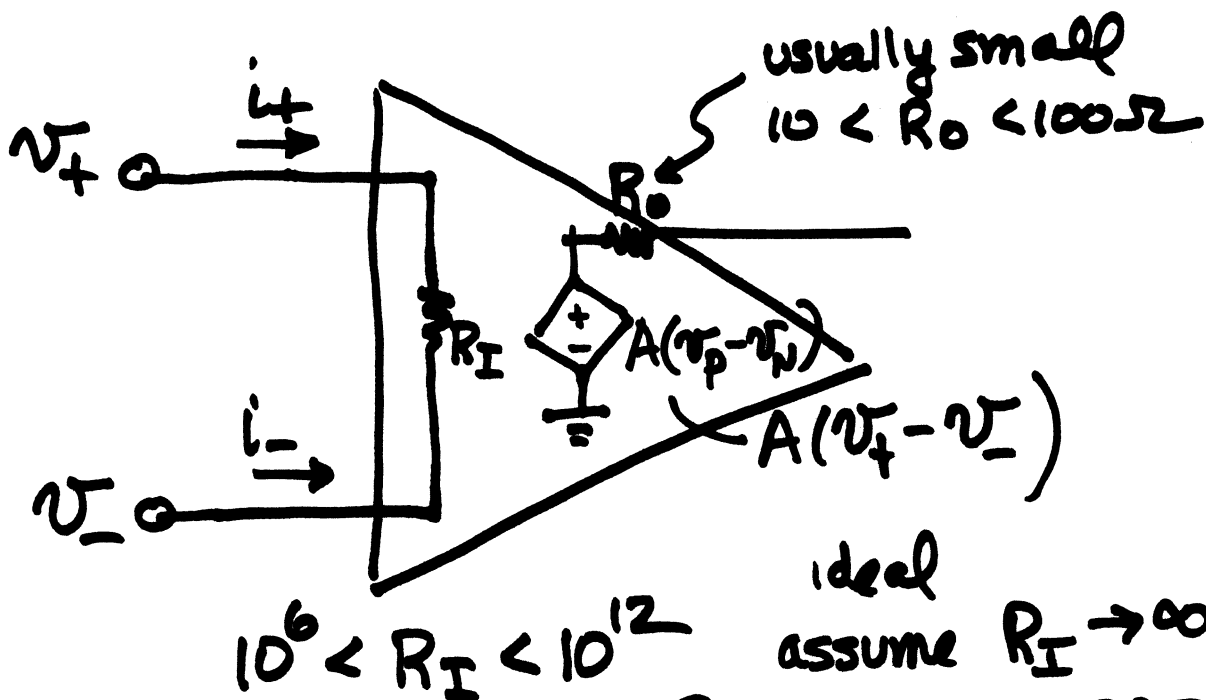
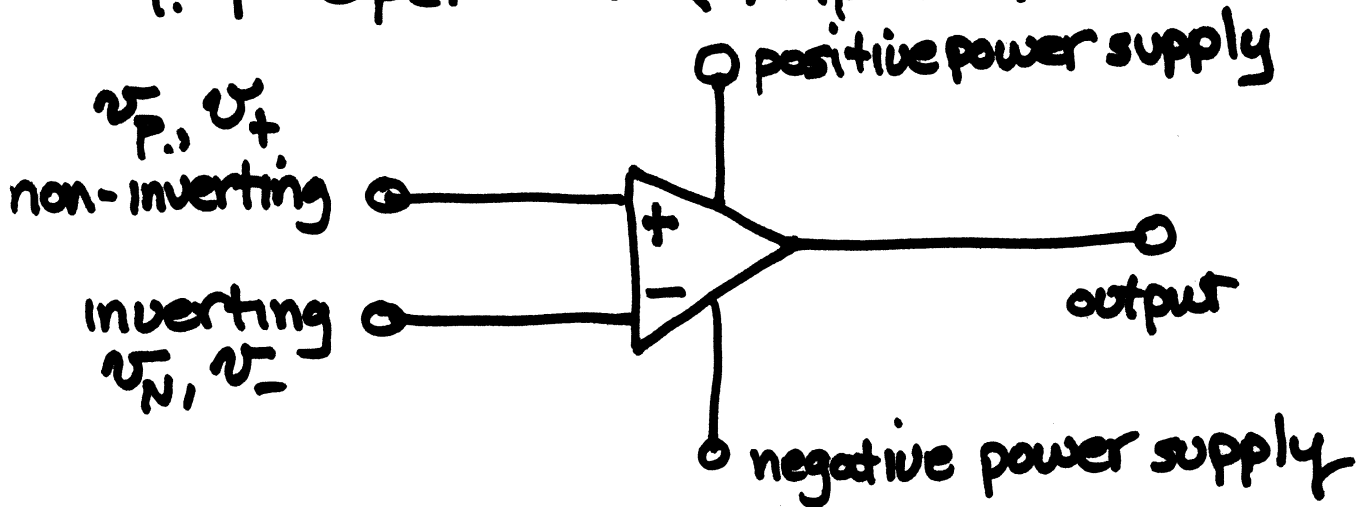
$$i_{sc} = \frac{\frac{\mu}{\mu+1} u_s - 0}{R_o}$$

$$R_T = R_N = \frac{u_f}{i_{sc}} = \frac{\frac{\mu}{\mu+1} u_s}{\frac{\frac{\mu}{\mu+1} u_s}{R_o}} = R_o$$



$$R_T = \frac{u_f}{i_{sc}}$$

# 4.4 Operational Amplifier



① NO INPUT CURRENT

$10^5 < A < 10^8$  open loop gain

