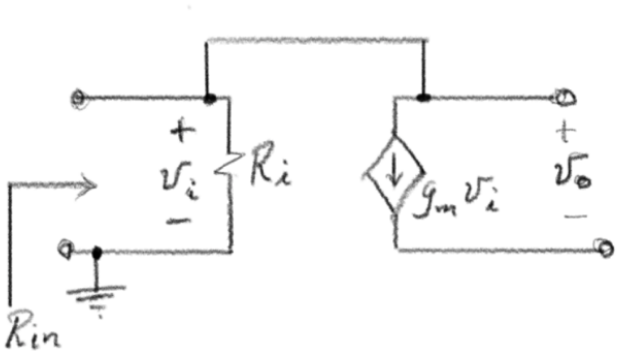
Analog Electronics **Hwk 7a**

Name: _____

1.- Find the input resistance R_{in} of the network below.(*Hint*: Apply a test voltage between the two input terminals, and find the current drawn from the source).

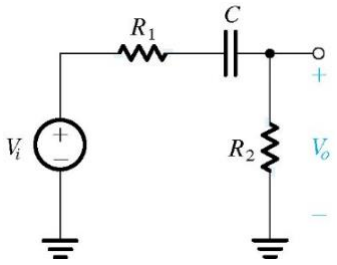


2.- For the circuit below,

a) Find the transfer function:

$$T(s) = V_o(s)/V_i(s)$$

b) Find the expression for the corner (-3 dB) frequency ω_o



3.- Find the output produced by the circuit below in response to the input pulse of 1 -V and 1-ms. $R = 10k\Omega$, $R_F = 1M\Omega$ The output saturates at $\pm 13V$.

4.- (Exa 2.8) The op amp below, is specified to have output saturation voltages of ± 13 V and output current limit of ± 20 mA.

a) For a sine-wave signal of peak voltage $V_p = 1.5V \quad and \quad R_L = 1k\Omega$ specify the signal resulting at the output of the amplifier.

b) For a sine-wave signal of peak voltage V_p = 1V, what is the lowest value of R_L for which an undistorted sine-wave output is obtained?