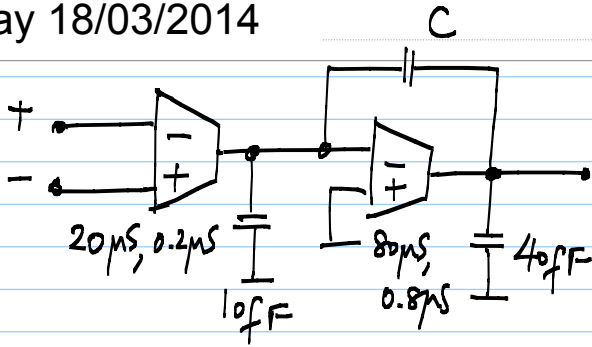


EE5390 Assignment 4

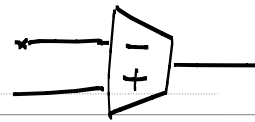
Tuesday 18/03/2014

1.

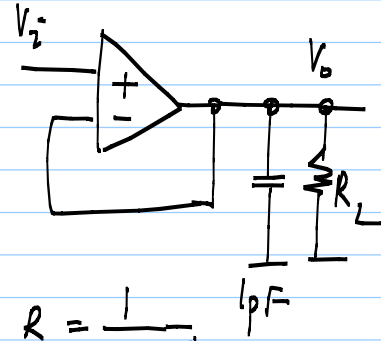


TWO STAGE OPAMP

The two stage opamp above is used in the unity gain follower on the right. What is the highest closed loop BW you can obtain with a  $60^\circ$  phase margin in the loop?

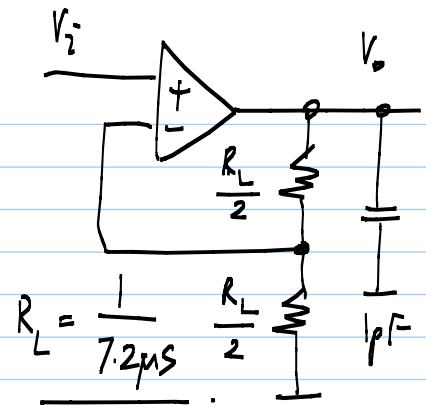


$G_m, G_o$   
Transconductance  
Output conductance



$$R_L = \frac{1}{7.2\mu S}$$

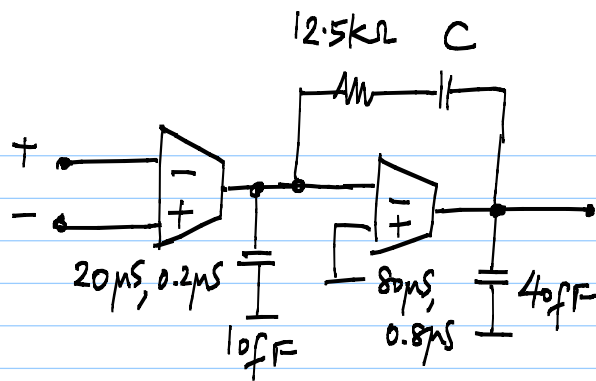
2. The two stage opamp above is used in the 2x amplifier on the right. What is the highest closed loop BW you can obtain with a  $60^\circ$  phase margin in the loop?



$$R_L = \frac{1}{7.2\mu S}$$

3. Comment on the bandwidths you can obtain for unity gain & 2x gain amplifiers.

4



A zero cancelling resistor is used in series with the integrating capacitor. Repeat prob #1 for this case.

5. Repeat prob #2 with the opamp above