## Op-Amp Prelab

Name: $\qquad$
TA: $\qquad$
Session: $\qquad$

1. For the Op-Amp we are going to use LMC 6482, which pin is $\mathrm{V}_{\mathrm{DD}}\left(\mathrm{V}^{+}\right)$and which is ground $\left(\mathrm{V}^{-}\right)$? What are the voltages we are going to use for $\mathrm{V}_{\mathrm{DD}}$ and $\mathrm{V}_{\mathrm{SS}}$ ? [2]
2. Derive the gain $\left(\mathrm{V}_{\text {out }} / \mathrm{V}_{\text {in }}\right)$ expression in terms of $\mathrm{R}_{1}$ and $\mathrm{R}_{2}$ for the following amplifiers. [4] (a) Noninverting amplifier [2]

(b) Inverting amplifier [2]

3. What is the gain of this circuit? [2]

4. Show the relation of output and input voltage of the following circuit is integration. [2]


Current going through R and C should be the same value but opposite directions.
5. Show the relation of output and input voltage of the following circuit is differentiation. [2]


