## 10.6.4: Non-inverting Voltage Amplifier (40 points total)

1. Attach, to this worksheet, your derivation of equations (1), (2), and (3). (3 pts)
2. In the space below, provide the calculated gain and phase for the circuit at frequencies of 100Hz, 5kHz, and 10kHz. (Part (b) of the pre-lab.) (4 pts)
3. Comment below on the capacitor physical behavior at low and high frequencies vs. expressions provided in (2) above. (2 pts)
4. Attach to this worksheet images of the oscilloscope window, showing the input and output voltages as functions of time for each of the three specified frequencies. (6 pts, 2 pts each image)
5. In the space below, tabulate the amplitudes of the input and output voltages, the time difference between the input and output voltages, and the gain and phase of the circuit for each of the three frequencies of interest in part (a) of the lab procedures. (12 pts)
6. In the space below, comment on the differences between the measured and expected gain and phase of the circuit at each of the frequencies in part 6 above. (e.g. compare your expressions in part 3 above with the measured data). (8 pts)
7. **DEMO**: Have a teaching assistant initial this sheet, indicating that they have observed your system’s operation. (5 pts total)

**TA Initials: \_\_\_\_\_\_\_**