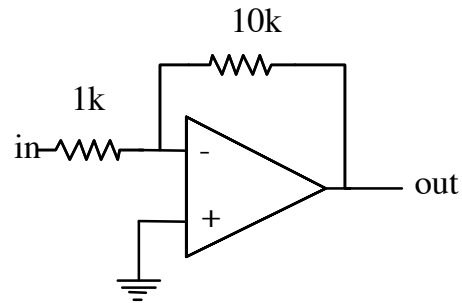


Experiment 1: Inverting Amplifier

- Construct the circuit shown at the right.
- Calculate the gain. I want to see the derivation of V_o/V_{in} in your notebook.
- Drive the circuit with a 1 kHz sine wave. What is the measured gain? (V_o/V_{in})
- What is the maximum voltage you can get out of the circuit? What is the minimum voltage (maximum negative voltage)? Why?
- Try varying the frequency. Does the performance of the circuit change at some point? If so, what frequency?
- Is the output of the circuit linear at all frequencies? (linear would mean that the output looks like the input—it is undistorted) Try using a triangle wave at different frequencies to test this.

**Experiment 2: Noninverting Amplifier**

- Construct the circuit shown at the right.
- Calculate the gain. I want to see the derivation of V_o/V_{in} in your notebook.
- Drive the circuit with a 1 kHz sine wave. What is the measured gain? (V_o/V_{in})
- What is the maximum voltage you can get out of the circuit? What is the minimum voltage (maximum negative voltage)? Why?
- Try varying the frequency. Does the performance of the circuit change at some point? If so, what frequency?
- Is the output of the circuit linear at all frequencies? (linear would mean that the output looks like the input—it is undistorted) Try using a triangle wave at different frequencies to test this.

