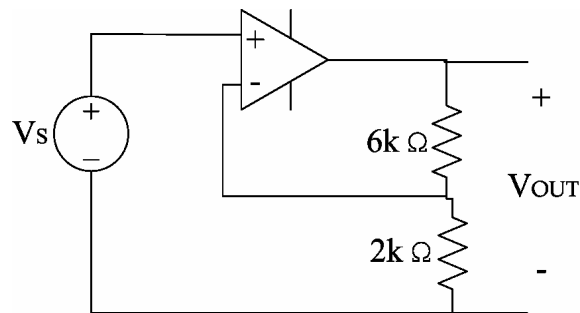


All the normal rules apply: Due next class, work on separate paper, start early, show your work, label everything (especially on graphs -including axes, time/voltage divisions, function plots, etc.), specify units, circle answers.

1. Design an inverting operational amplifier circuit with an input voltage of 5v. Design for maximum gain without saturating the op amp. (V_{OUT} should be no more than the op amp supply voltage). Assume your amplifier is ideal and has ± 15 volt power supplies. Use resistor values between $1k\Omega$ and $100k\Omega$.

2. For the op-amp circuit below assume it is an ideal op-amp with a supply voltage of ± 15 volts:
 - a. Determine the gain of the circuit.
 - b. Determine the maximum value for V_S such that the op-amp does not saturate.



3. For the op-amp circuit below, find V_{OUT} . Assume it is an ideal op-amp:

