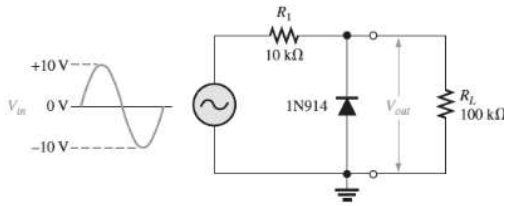
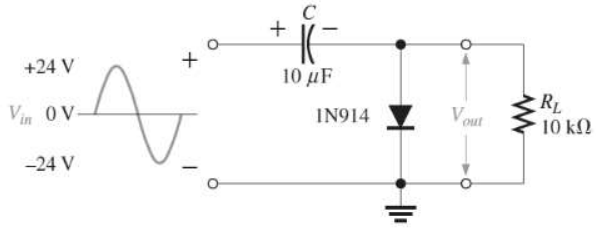
Example for Diode Limiter

Problem: Find the output voltage across R_L in the limiter circuit.



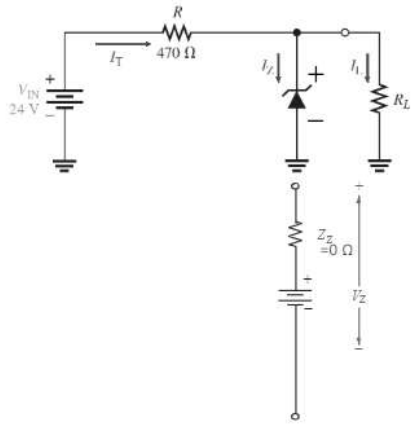
Example for Diode Clamper

Problem: Find the output voltage across R_L in the clamping circuit.



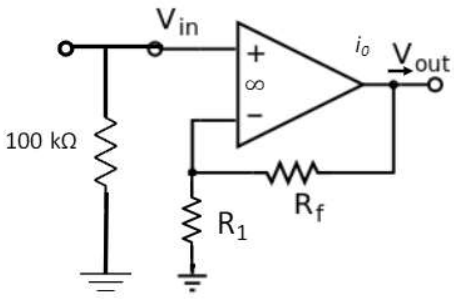
Zener Diode for Load Regulation

Problem: Determine the minimum and maximum load currents for which the zener diode in Figure given below will maintain regulation. What is the minimum value of R_L that can be used? V_Z=12V, I_{ZK}= 1 *mA*, and I_{ZM}= 50 *mA*. Assume an ideal zener diode where Z_Z= 0 Ω and V_Z remains a constant 12 V over the range of current values, for simplicity.



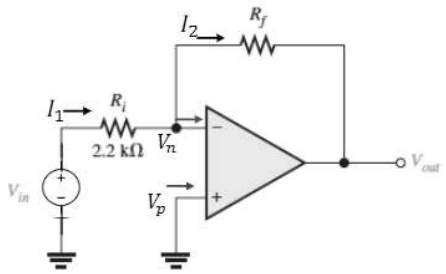
Example for Non-Inverting OpAmp

Problem 1: Determine the voltage gain in dB, input resistance, output voltage, and output current for the Op-Amp circuit. Here, V_{in}=0.3 V, R_1=1 kΩ , R_f=39 kΩ.



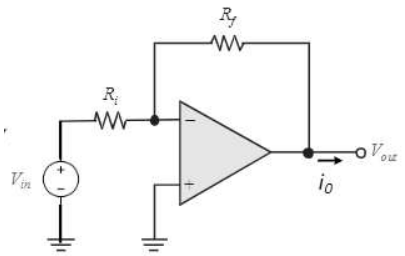
Example for Ideal OpAmp

Problem 2: Find output voltage when an input voltage of 5 V is applied to the circuit. The feedback resistance is 4.4 kΩ.



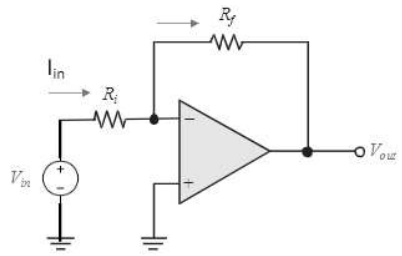
Example for Inverting OpAmp

Problem 3: Determine the voltage gain, source current, output current, and output voltage of the Op-Amp circuit. Here, V_{in}=0.5 V, R_1=78 kΩ , and R_f=490 kΩ.



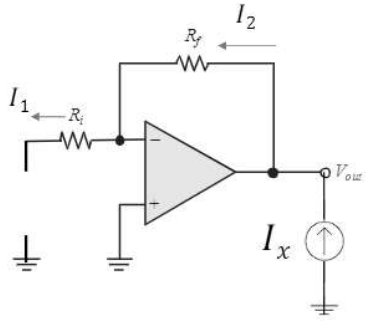
Example for Inverting OpAmp

Problem 4: Determine the voltage gain, input resistance, and output resistance of the inverting Op-Amp circuit. Consider R_{in}= 2 $k\Omega$, and R_f= 10 $k\Omega$



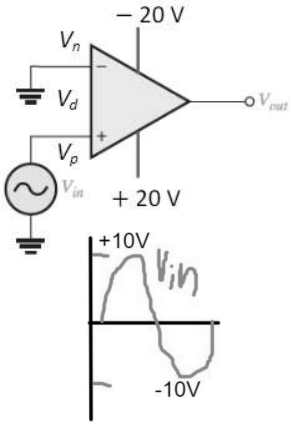
Example for Inverting OpAmp

Problem 4: Determine the voltage gain, input resistance, and output resistance of the inverting Op-Amp circuit. Consider R_{in}= 2 $k\Omega$, and R_f= 10 $k\Omega$



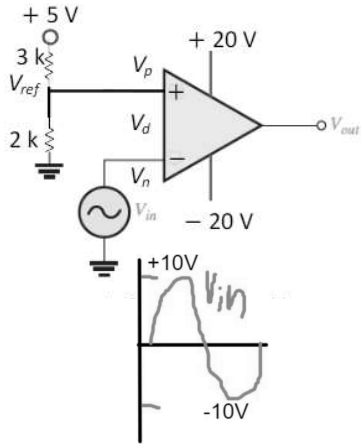
Example for Non-Inverted Comparator

Problem 1: Find V_{out} for the given circuit.



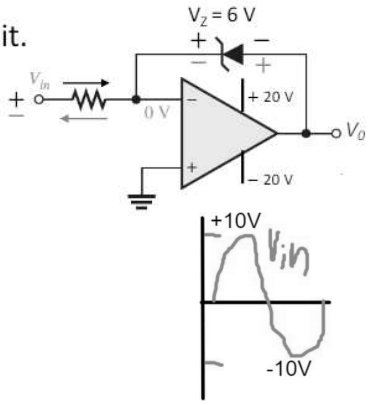
Example for Inverted Comparator

Problem 2: Find V_{out} for the given circuit.



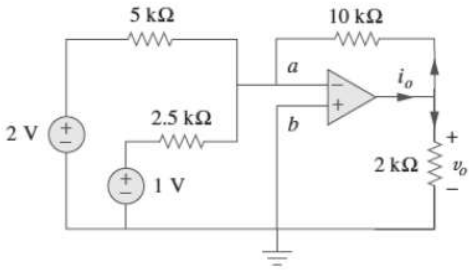
Example for Output Bounding

Problem 3: Find V_{out} for the given circuit.



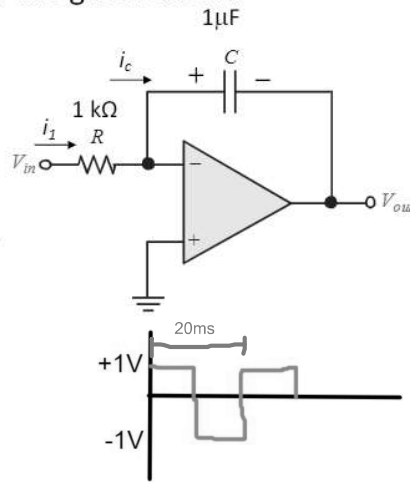
Example for Summing OpAmp

Problem 4: Find v_0 and i_o in the Op-Amp circuit.



Example for OpAmp Integrator

Problem 2: Find the output waveform for the given circuit.



Example for OpAmp Differentiator

Problem 3: Determine the output waveform for the given circuit.