**Problem 1**

For the circuits below, $V_{in}$ is a $\pm 15V$ Triangle wave. Plot $V_o$ and $V_{in}$.

a)

![Circuit Diagram](image)

b)

![Circuit Diagram](image)

c)

![Circuit Diagram](image)

**Problem 2**

For each circuit in Problem 1, use PSPICE to

a) plot $V_o(t)$ and $V_{in}(t)$

b) plot the transfer curve $V_o$ vs $V_{in}$

See PSPICE book section 6F
Problem 3

- in both circuits, $C = 1 \mu F$
- The switches close at $t = 0$

a) For each circuit, write an equation for $V_C(t)$

b) We would like the approximate circuit to be within 1% accuracy of the actual circuit for calculating $V_C(t)$. For what values of $t$ is $V_C(t)$ of the approximate circuit within 1% of $V_C(t)$ of the actual circuit?
Problem 4

Design the biased clamp so that the droop at the output is less than 1% for loads $\geq 10\, k\Omega$. 