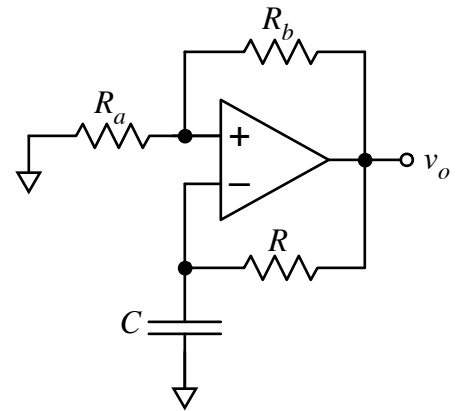


Design the non-linear oscillator circuit shown at right so that the oscillation frequency is 500 Hz. Assume that the op-amp has output voltage limits at ± 10 V, but otherwise is ideal. Your design should specify the size of the hysteresis loop (i.e. you need to specify V_{TL} and V_{TH}), which means that you must specify the R_b/R_a ratio and the RC time needed.



Make a sketch of the expected output and capacitor voltages as a function of time. Be sure to label important details (voltage levels, axis-crossing times, etc).

Be sure to show your design equations and how you arrived at the final specifications. Do not use the javascript calculator to guess your way to an answer!

$R_b/R_a =$ _____ $RC =$ _____

$V_{TL} =$ _____ $V_{TH} =$ _____