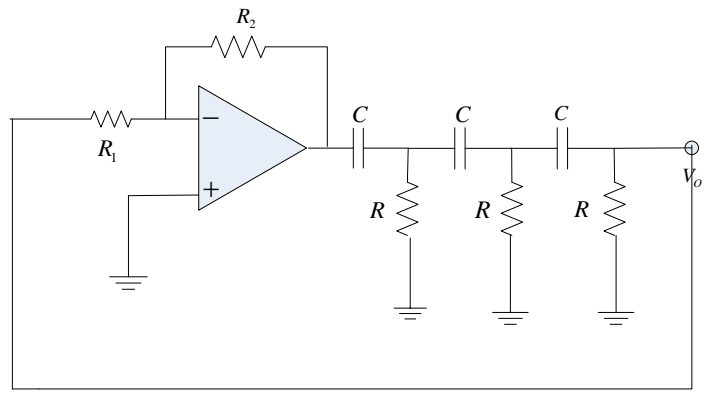
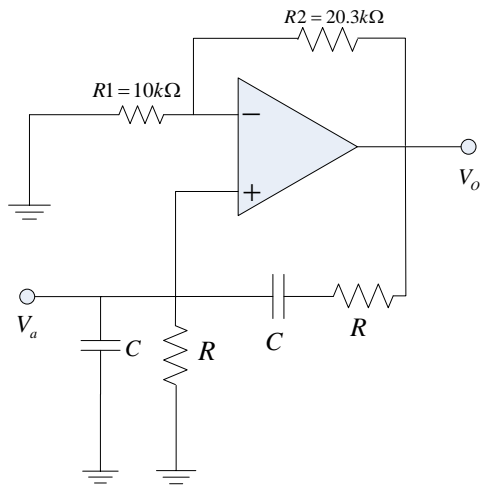


DGD4-Oscillator



Q1. (Exercise 17.3) As the above left figure, it is a Wien-bridge oscillator, for RC frequency selective network, $R = 10k\Omega$, $C = 16nF$, please use the loop gain concept and find the frequency of oscillation.

Solutions: $\omega_0 = \frac{1}{CR}, 1kHz$

Q2. As above right figure, it is a phase-shift oscillator, if amplifier gain equal 29, and $R_1 = 1k\Omega$, RC network, $R = 10k\Omega$, the oscillation frequency $f = 1kHz$, please determine the value of R_2 and C .

Solutions: $R_2 = 29k\Omega$, $f = \frac{1}{2\pi RC\sqrt{6}}$, $C = 6.5nF$