The op-amp is ideal, with $V_{CC} = 10\,\text{V}$ and $V_{EE} = -10\,\text{V}$. The diode forward voltage, $V_D = 0.7\,\text{V}$.

- What is the frequency of oscillation.
- Sketch $V_o$ when the oscillation amplitude has stabilized.
- Indicate the approximate voltage of oscillation on the sketch.
The op-amp is ideal, with \( V_{CC} = 2 \) V and \( V_{EE} = -2 \) V.

\[
\begin{align*}
\begin{array}{c}
\text{54 k\Omega} \\
\text{31 k\Omega} \\
\text{28 nF} \\
\text{27 k\Omega}
\end{array}
\end{align*}
\]

Initial conditions are: \( V_- = 0 \) and \( V_o = +V_{CC} \).

Sketch as a function of time: 1) \( V_- \), 2) \( V_+ \), 3) \( V_o \).
Initial conditions are that the charge on the capacitor is zero. $V_{CC} = 9 \, \text{V}$.

- Sketch $V_o$, $V_A$ and $V_B$.
- What is the length of the $V_o = \text{high}$ and $V_o = \text{low}$ outputs?