1. After being closed for a long time, the switch opens at time $t = t_o$. Rail voltages = $\pm 12$ V

Choose either an $R$ or $C$ to go in box $a$ and either an $R$ or $C$ to go in box $b$ to produce the $v_o(t)$ shown above. ($a = C$ and $b = C$ is not a possibility.) Use an $R$ value of 1 k$\Omega$ for any $R$ used. Also, note that $v_o$ stays low forever after $t_o + 1.85$ ms.) Specify which element goes in each box and its value.

2. Sketch $v_1(t)$, showing numerical values appropriately.

3. a) Sketch $v_2(t)$, showing numerical values appropriately.
   b) Sketch $v_3(t)$. Show numerical values for $t < t_o$, for $t_o < t < t_o + 1.85$ ms, and for $t > t_o + 1.85$ ms. Use the ideal model of the diode: when forward biased, its resistance is zero; when reverse biased, its resistance is infinite.
A frequency-domain circuit is shown above. Write the value of phasor current $I_1$ in polar form.

5. Given $\omega = 10$ rad/s, write a numerical time-domain expression for $i_1(t)$, the inverse phasor of $I_1$. 