1. Find the membrane voltage, $V_{\text{Membrane}}$, in terms of $V_{\text{Na}}$, $V_{\text{K}}$, $R_{\text{Na}}$, $R_{\text{K}}$, and $R_{\text{Leak}}$.

2. Find the voltages at each electrotonic fall-off in the above model of an apical dendrite, denoted $V_1$, $V_2$, and $V_3$, in terms of the potential at the soma, $V_{\text{Soma}}$.

3. What is the steady-state value of the voltage drop across the capacitor, $C$?

4. This is hard. What is the expression for the time constant in the above circuit?