## 6.3.2: Electrolytic Capacitor Leakage Currents (35 points total)

1. Attach to this worksheet an image of the oscilloscope window, showing the capacitor voltage, resulting from opening the switch in Figure 2(a). (5 pts)
2. **DEMO**: Have a teaching assistant initial this sheet, indicating that they have observed your circuit’s operation when the electrolytic capacitor is connected with the correct polarity. (5 pts)

**TA Initials: \_\_\_\_\_\_\_**

1. Attach to this worksheet an image of the oscilloscope window, showing the capacitor voltage, resulting from opening the switch in Figure 2(b). In the space below, provide your estimate of the time constant of the circuit. (5 pts)
2. **DEMO**: Have a teaching assistant initial this sheet, indicating that they have observed your circuit’s operation when the electrolytic capacitor is connected in reversed polarity. (5 pts)

**TA Initials: \_\_\_\_\_\_\_**

1. In the space below, provide a table giving your estimated time constants and the calculated capacitor resistance for both capacitor polarities. Comment on the differences between the two cases, including a percent change in resistance. (8 pts)
2. In the space below, provide your estimate of the resistance required in the circuit of Figure 4 which changes the time constant of the capacitor by 10%. (7 pts)