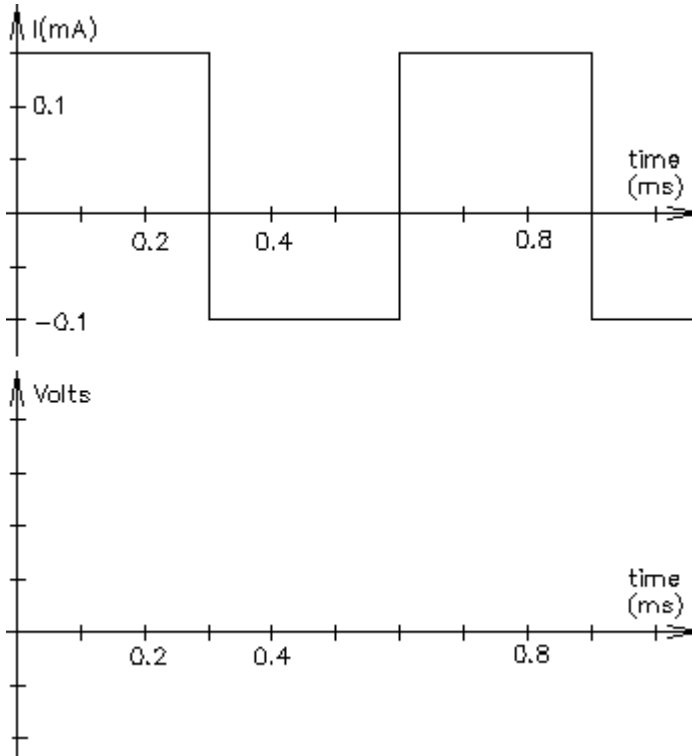
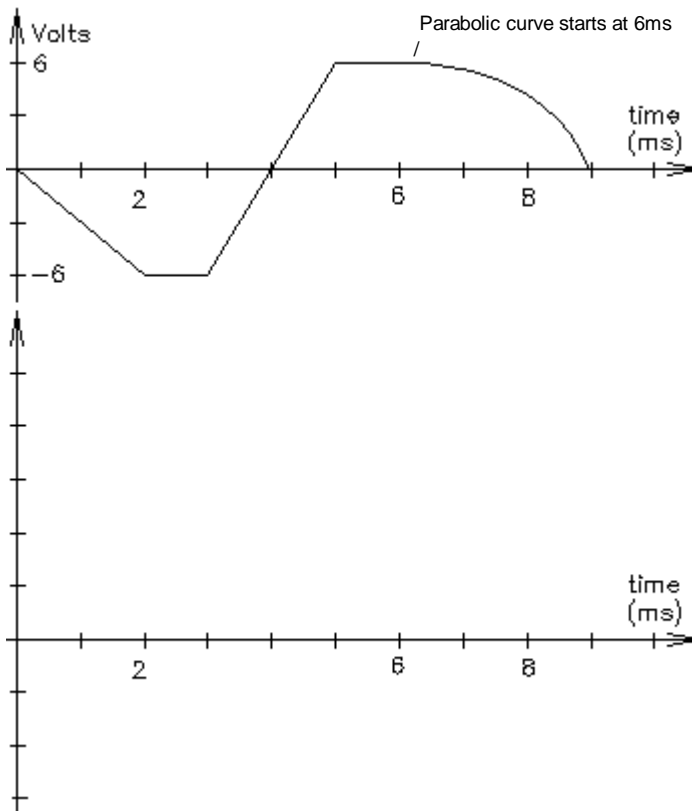


1. The current waveform shown below flows through a $0.025 \mu\text{F}$ capacitor. Make an accurate drawing of the voltage across it. Label your graph. Assume the initial voltage across the capacitor is 0 V .



2. The voltage across a $2 \mu\text{F}$ capacitor is shown below. Make an accurate drawing of the capacitor current. Label your graph.

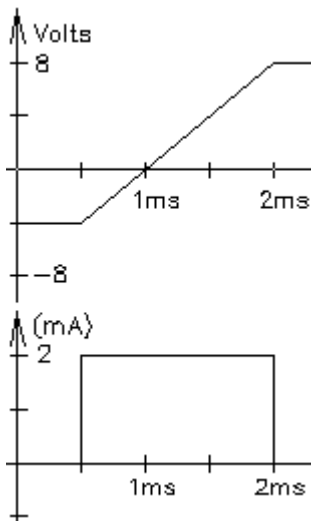


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3. The voltage across a $0.68 \mu\text{F}$ capacitor is $v_C(t) = 6 \cdot V \cdot \cos\left(200 \cdot t + \frac{\pi}{2}\right)$ find $i_C(t)$.

4. The current through a $0.0047 \mu\text{F}$ capacitor is $i_C(t) = 18 \cdot \mu\text{A} \cdot \cos\left(628 \cdot t - \frac{\pi}{4}\right)$ find $v_C(t)$.

5. A capacitor voltage and current are shown. What value is the capacitor?



Answers

1. $1.8 \cdot V$ $0.6 \cdot V$ $2.4 \cdot V$ 2. $-6 \cdot \text{mA}$ $12 \cdot \text{mA}$ ramp to -8mA

3. $i_C(t) = 0.816 \cdot \text{mA} \cdot \cos(200 \cdot t + \pi)$ 4. $v_C(t) = 6.1 \cdot V \cdot \cos\left(628 \cdot t - \frac{3 \cdot \pi}{4}\right)$

5. $0.25 \cdot \mu\text{F}$