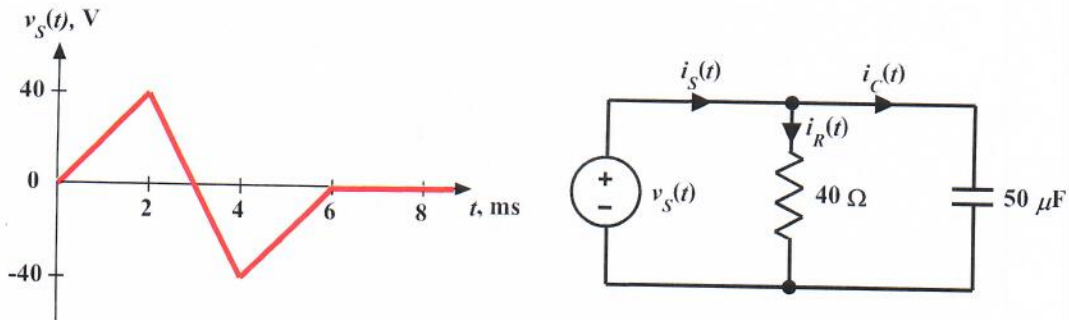


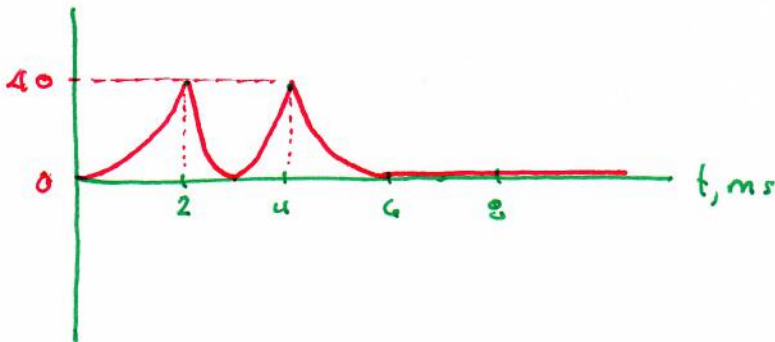
EE/EET 2240
Homework Problem #041



The circuit and source voltage are the same as those in Homework Problem #040.

- a. Accurately sketch the waveform for the power absorbed by the resistor.

$$P_R(t) = i_R(t) \cdot v_S(t) = 40 i_R^2(t) = \frac{v_S^2(t)}{40}, \text{ W}$$



- b. Accurately sketch the waveform for the capacitor charge, $q_C(t)$.

$$q_C(t) = 50 \times 10^{-6} \cdot v_S(t), \text{ C}$$

