**Chapter 7, Solution 1.**

(a) $\tau$=RC = 1/200

For the resistor, V=iR= $56e^{-200t} = 8Re^{-200t}\ x10^{-3}$ $\longrightarrow$ $R = \frac{56}{8} = \underline{7\ \text{k}\Omega}$

$$C = \frac{1}{200R} = \frac{1}{200X7X10^{3}} = \underline{0.7143\mu F}$$

(b) $\tau$ =1/200= **5 ms**

(c) If value of the voltage at = 0 is 56 .

$$\frac{1}{2}x56 = 56e^{-200t} \longrightarrow e^{200t} = 2$$

$$200t_o = \ln 2 \longrightarrow t_o = \frac{1}{200}\ln 2 = \underline{3.466\ \text{ms}}$$