



(A) $V = IR$ $R = 1.65 + 2.15 = 3.80$ *- series*

$6 = I(3.80)$ $I = \underline{\underline{1.579 \text{ mA}}}$

(B) $Q = VC$ $C_{eq} = 2.7 + 3.6 = 6.3$ *- parallel*

$Q = (6)(6.3) = \underline{\underline{37.8 \mu C}}$

(C) $.70 Q_s = Q_s (1 - e^{-t/RC})$ $R = 3.80$
 $.70 = 1 - e^{-t/23.94}$ $C = 6.3$
 $RC = 23.94$

$e^{-t/23.94} = .3$

$\frac{-t}{23.94} = \ln(.3) = -1.203973$

$t = \underline{\underline{28.8 \text{ ms}}}$

(D) $.2 Q_0 = Q_0 e^{-t/RC}$ $R = .597$ $C = 6.3$
 $.2 = e^{-t/3.763}$ $t = -3.763 \ln(.2) = \underline{\underline{6.057 \text{ ms}}}$

- 1.21 & 1.18 in parallel