



initial current $V = IR$ $I = \frac{V}{R} = \frac{3}{.667} = 4.5 \text{ mA}$

long time $Q = VC = (3)(7) = 21 \text{ mC}$

$$.9Q_s = Q_s(1 - e^{-t/Rc})$$

$$.9 = 1 - e^{-t/4.667}$$

$$e^{-t/4.667} = .1$$

$$\frac{-t}{4.667} = \ln(.1) = -2.3025$$

$$\underline{\underline{t = 10.75 \text{ s}}}$$