



resistance kΩ
capacitance μF
time ms
charge μC
current mA

Ⓐ 5.5 not in charging circuit

$$V = IR \quad 9 = I(4.4) \quad I = \underline{\underline{2.05 \text{ mA}}}$$

Ⓑ $2.2 + 3.3$ in parallel $\Rightarrow 5.5$

$$Q = VC = (9)(5.5) = \underline{\underline{49.5 \mu C}}$$

Ⓒ $Q = VC = 9(2.2) = \underline{\underline{19.8 \mu C}}$

Ⓓ $.8Q_s = Q_s(1 - e^{-t/RC})$

$$R = 4.4$$

$$C = 5.5$$

$$RC = 24.2$$

$$.8 = 1 - e^{-t/24.2}$$

$$\frac{-t}{24.2} = \ln(.2) = -1.609$$

$$t = \underline{\underline{38.95 \text{ ms}}}$$

Ⓔ $.6Q_0 = Q_0 e^{-t/RC}$

$$R = 9.9$$

$$C = 5.5$$

$$RC = 54.45$$

$$\frac{-t}{54.45} = \ln(.6) = -.510826$$

$$t = \underline{\underline{27.81 \text{ ms}}}$$