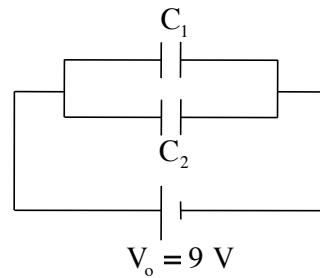


Problem 26.13

a.) Using the equivalent capacitance for a parallel combination, we can write:

$$\begin{aligned}C_{\text{equ}} &= C_1 + C_2 + \dots \\ &= (5.00 \mu\text{F}) + (12.0 \mu\text{F}) \\ &= 17.0 \mu\text{F}\end{aligned}$$



b.) Each element of a parallel circuit has the same voltage across it, so both caps have 9 volts across it

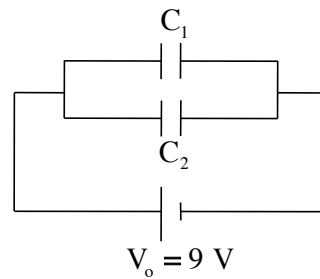
c.) Using the definition of capacitance, the charge on each cap is:

$$\begin{aligned}C_1 &= \frac{Q_1}{V_c} \\ \Rightarrow Q_1 &= (5.00 \mu\text{F})(9.00 \text{ V}) \\ &= 4.50 \times 10^{-5} \text{ F} \quad (\text{or } 45.0 \mu\text{F})\end{aligned}$$

1.)

c.) (con't):

$$\begin{aligned}C_2 &= \frac{Q_2}{V_c} \\ \Rightarrow Q_2 &= (12.0 \mu\text{f})(9.00 \text{ V}) \\ &= 1.08 \times 10^{-4} \text{ F} \quad (\text{or } 108 \mu\text{F})\end{aligned}$$



2.)