After the switch was closed for a long time, the capacitors are fully charged and no current goes through them. The current goes only through $R_1$ and $R_2$ as in Figure above.

\[ P = \frac{V^2}{R_2} \Rightarrow I^2 = \frac{P}{R_2} = \frac{3\text{W}}{8\times10^3 \Omega} = 0.375 \times 10^{-3} \text{A}^2 \]

\[ \Rightarrow I = 0.019 \text{A} \]

\[ V_2 = IR_2 = 45.5 \times 10^{-6} \text{V} \]

\[ V_1 = IR_1 = 96.8 \text{V} \]

\[ V = V_1 + V_2 = 155 + 96.8 = 2.5 \times 10^{-3} \text{V} \]

b) $C_2$ will be charged to $V_2$

\[ Q_2 = C_2 \times V_2 = 4 \times 10^{-6} \text{F} \times 455 \text{V} = 1.08 \times 10^{-4} \text{C} \]