\[ I = \frac{\frac{1}{5}}{\frac{2+8 + \frac{1}{5} + \frac{1}{6+4}}{x4} = \frac{\frac{1}{5}}{\frac{1}{10 + \frac{1}{5} + \frac{1}{10}}x4 = \frac{\frac{1}{5}}{\frac{4}{10}}x4 = \frac{x8^2}{80}x4 = 2 \text{ A}}{x4} \]

\[ V_1 - 6 + \frac{V_1}{6} + \frac{V_1 - V_2}{8} = 0 \]
\[ \frac{V_2 - V_1}{2} + \frac{V_2 - 32}{8} + \frac{V_2}{8} = 0 \]

\[ 2V_1 - 12 + V_1 + 3V_1 - 3V_2 = 0 \]
\[ 4V_2 - 4V_1 + V_2 - 32 + V_2 = 0 \]

\[ 6V_1 - 3V_2 - 12 = 0 \]
\[ -4V_1 + 6V_2 - 32 = 0 \]

\[ V_1 = 7 \text{ V} \]
\[ V_2 = 10 \text{ V} \]
\[
\begin{align*}
\frac{f_p}{2\pi RC} &= \frac{1}{2\pi \times 20 \times 16 \times 10^{-6}} = \frac{10^6}{2 \times 3.14 \times 20 \times 16} \\
&= 477.3 \text{ Hz}
\end{align*}
\]

\[
\begin{align*}
R_T &= C_1 V_1 + C_2 V_2 = (C_1 + C_2) V \\
\Rightarrow V &= \frac{C_1 V_1 + C_2 V_2}{C_1 + C_2} = \frac{2 \times 1 + 1 \times 2}{2 + 1} = \frac{4}{3}
\end{align*}
\]

\[
\begin{align*}
V_0 &= aV_1 + bV_2 \\
V_{01} &= V_1 \times \frac{2(1 + 2)}{2(1 + 2)} = \frac{1}{4} \\
V_{02} &= V_2 \times \frac{1 + (2/2)}{2 + (1 + (2/2))} = \frac{1}{2}
\end{align*}
\]

\[a = \frac{1}{4}, \quad b = \frac{1}{2}\]