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\[ \begin{align*}
\text{a) single circuit: at } t=0, \text{ the capacitor is uncharged and is} \\
\text{just like a wire:} \\
\end{align*} \]

\[ \begin{align*}
\text{b) at } t=\infty, \text{ the capacitor is charged and no current flows} \\
\text{through it:} \\
\end{align*} \]

\[ \begin{align*}
\text{c) at } t=\infty, \text{ the potential difference is the same as that} \\
\text{across points a and b shown below:} \\
\end{align*} \]

\[ \text{(no drop from resistor when } I=0) \]
22.8 The flux is equal to \( \frac{Q_1}{E_0} \). 

Q and E are the same for both closed surfaces.

\( E_0 \) is a constant.

\( \Rightarrow \) the ratio is 1:1.