P1  The voltage waveform below is applied across a 30-µF capacitor. Sketch the current waveform through it.

\[ i(t) = 150 \text{mA}, \quad 10 \text{ms} < t \leq 12 \text{ ms} \]

P2  The current through a 0.5-F capacitor is \(6(1-e^{-t}) \) A.
Determine the voltage and power at \( t=2 \) s. Assume \( v(0) = 0 \).

\[ p(2) \text{ is between 70W and 80W.} \]

P3  Find the voltage across the capacitors \( v_1 \) and \( v_2 \) in the circuit below under dc conditions.

\[ \text{Hint: both voltages are between 29V and 41V.} \]