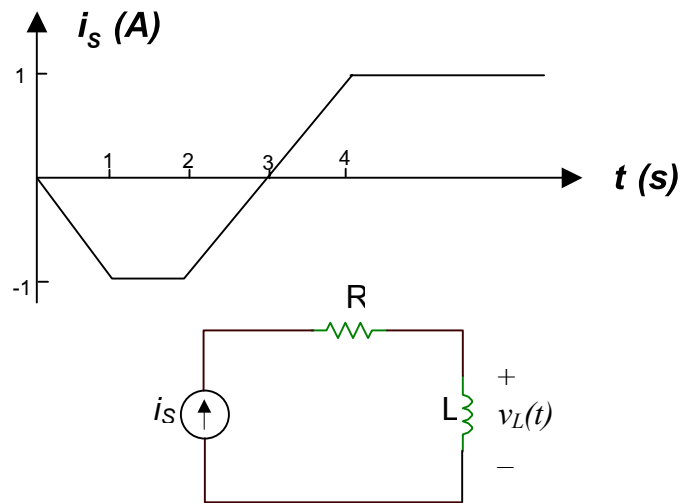1. For the circuit and independent current as shown below.

- If $R = 2\ \Omega$ and $L = 4$ H determine and sketch the voltage $v_L(t)$ for $t > 0$, assume that the inductor current $i_L(0) = 0$.
- Determine and sketch the power absorbed by the inductor $p_L(t)$ for $t > 0$.
- Determine the energy stored in the inductor at $t = 1.5$ s and at steady state.
- If the inductor in the above circuit is replaced by a capacitor $C = 1$ F determine the voltage across the capacitor v_C at $t = 3$ s, assume that the capacitor voltage $v_C(0) = 2$ V.