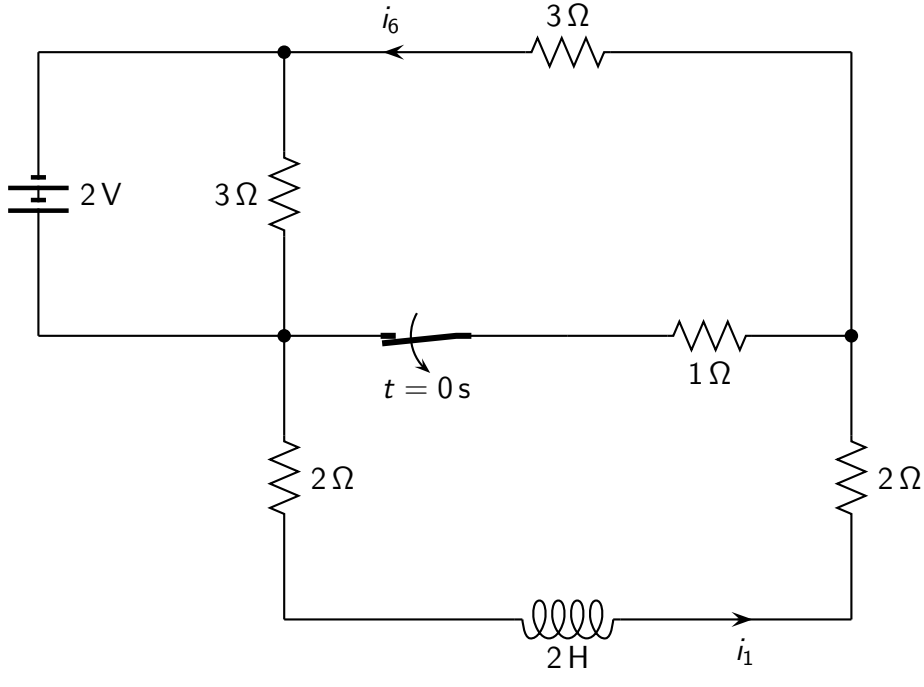
Problem: find the expression of $i_1(t)$, $i_6(t)$ for $t > 0$.



Solution

- Time constant: $\tau = \frac{2}{7}\,\text{s}$;
- Initial conditions before switching: $i_1(0^-) = \frac{2}{19}\,\text{A}$;
- Initial conditions after switching: $i_1(0^+) = \frac{2}{19}\,\text{A}$; $i_6(0^+) = \frac{2}{19}\,\text{A}$;
- Steady-state solution: $i_1(\infty) = \frac{2}{7}\,\text{A}$; $i_6(\infty) = \frac{2}{7}\,\text{A}$;
- Solution for $t > 0$:

$$i_1(t) = \left(-0.18\,e^{-t/\tau} + \frac{2}{7}\right)\,\text{A}$$

$$i_6(t) = \left(-0.18\,e^{-t/\tau} + \frac{2}{7}\right)\,\text{A}$$