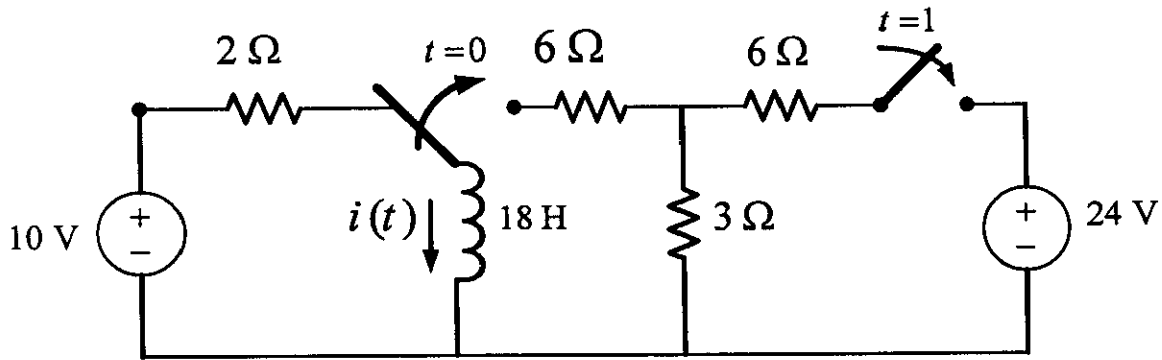
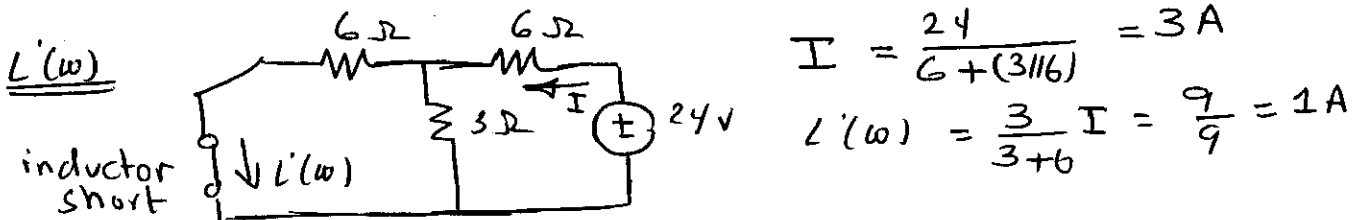
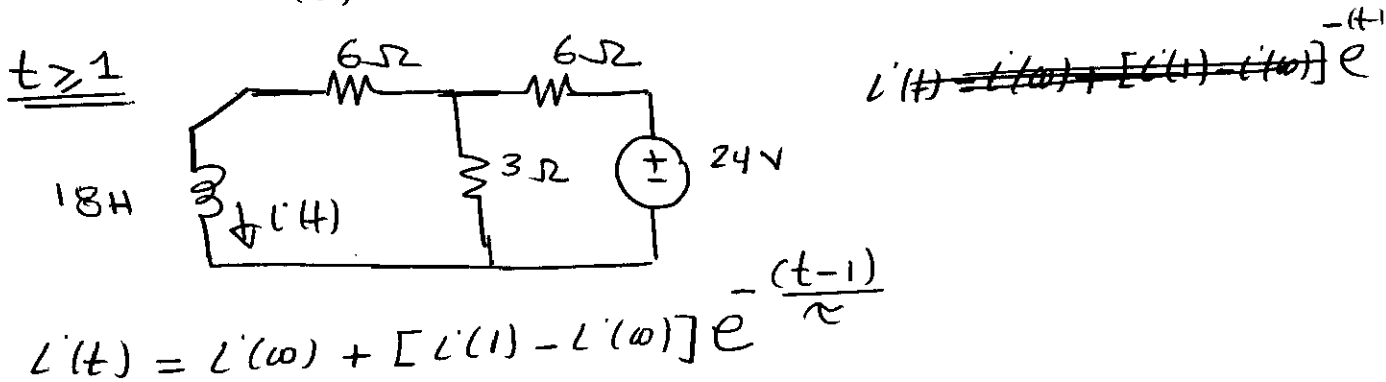
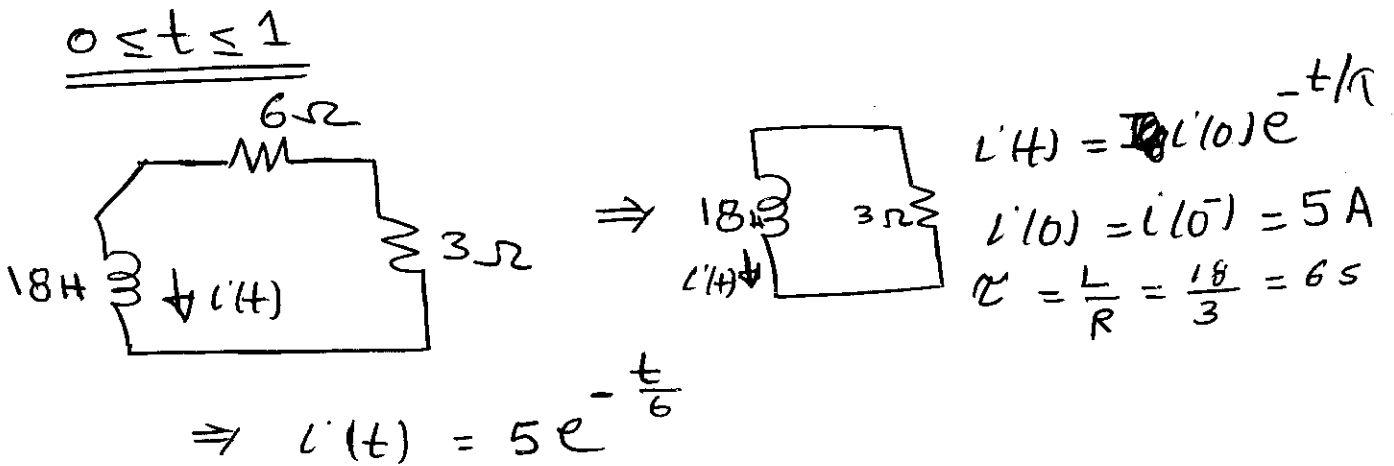
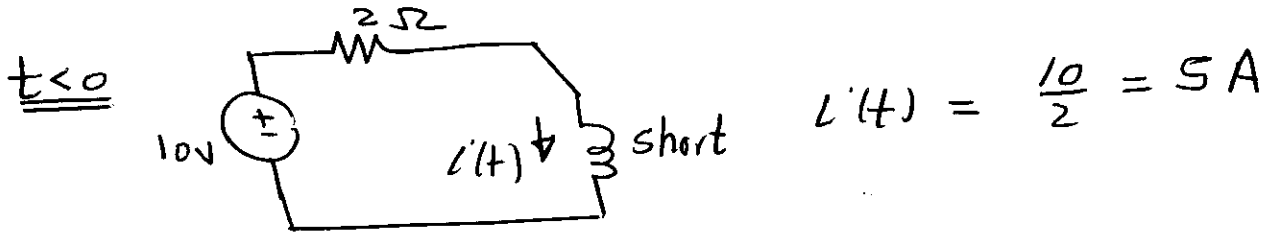


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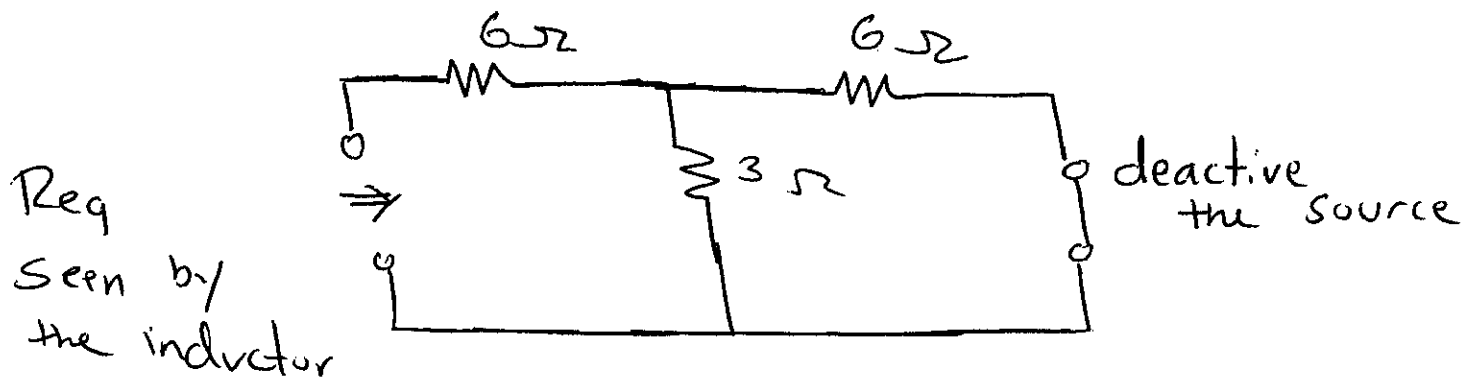
For the sequential switch circuit shown above, find $i(t)$ for all time?



⇒

$$i'(1) = i'(1^-) = 5e^{-\frac{1}{6}} = 4.23 \text{ A}$$

$$\tau = \frac{L_{eq}}{R_{eq}} \quad L_{eq} = 18 \text{ H}$$



$$R_{eq} = 6 + (3//6) = 6 + 2 = 8 \Omega$$

$$\tau = \frac{18}{8} = \frac{9}{4} \text{ s}$$

$$\begin{aligned} i'(t) &= i'(\infty) + [i'(1) - i'(\infty)] e^{-\frac{(t-1)}{\tau}} \\ &= 1 + [4.23 - 1] e^{-\frac{(t-1)}{9/4}} \\ &= 1 + 3.23 e^{-\frac{4(t-1)}{9}} \quad \text{A} \end{aligned}$$