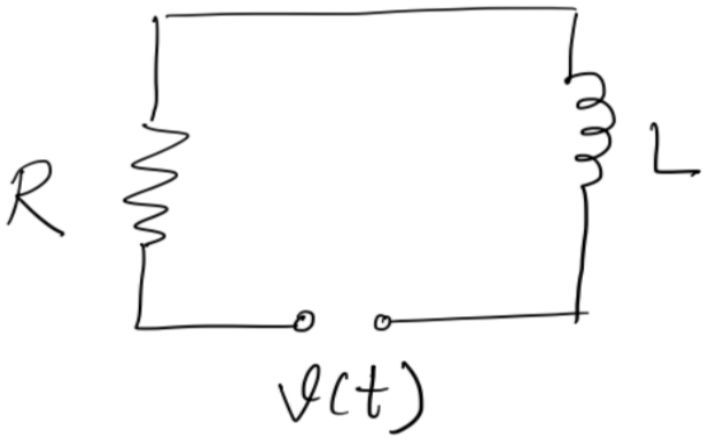
MTH204: Worksheet 10

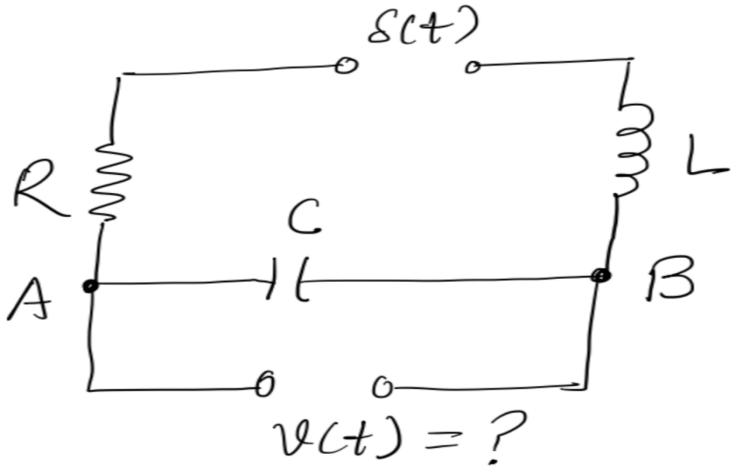
April 19, 2023

1. RL-Circuit: **(5)**



If $R = 100\Omega$, $L = 1H$ and $v(t) = 0$ volts if $0 < t < \pi$ and $20\cos t$ volts if $t > \pi$. Assuming $i(0) = 0$, Find $i(t)$.

2. Four terminal RLC-Circuit:



Find output voltage $v(t)$. $R = 8\Omega$, $L = 1H$ and $C = 1/116$. Input voltage is $\delta(t)$. Charge $q(0) = 0$ and current $i(0) = 0$. **(5)**