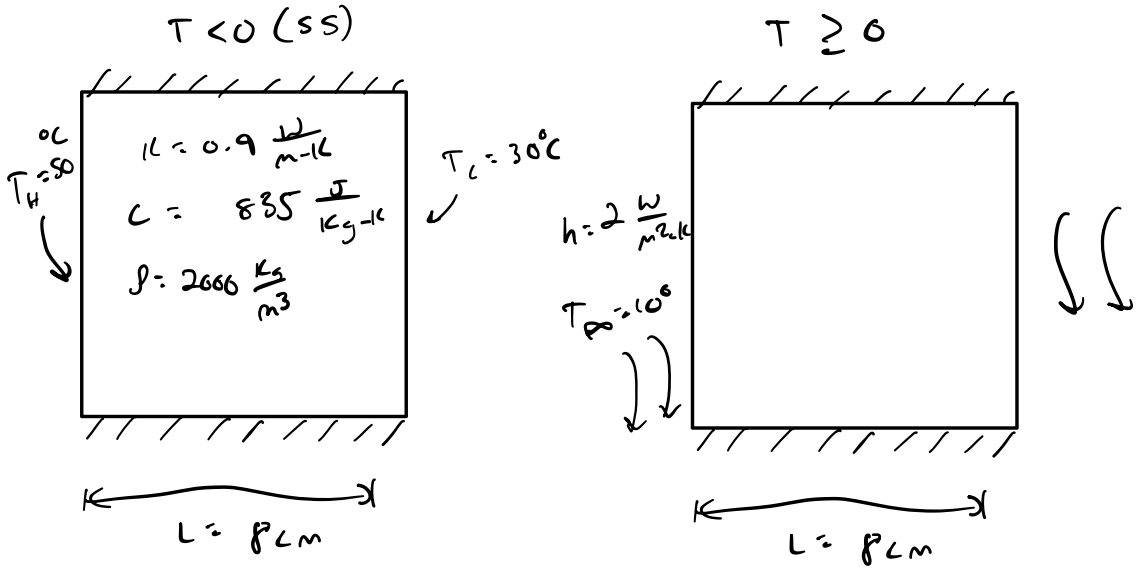
$A_c = 1\,m^2$

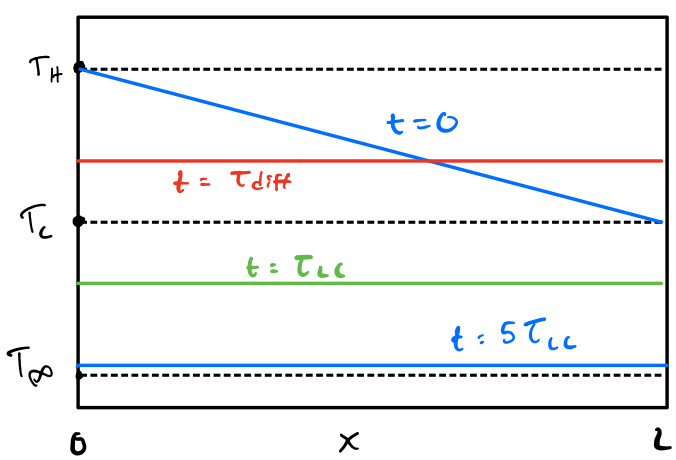


a) $\tau_{LC} = R_{sum} \cdot C$

$= \left(\frac{1}{hA_s}\right)(\rho \cdot c \cdot V)$ $\qquad C = m \cdot c$

$= 33400$ s

b) $\tau_{diff} = \frac{L^2}{4\alpha}$ $\qquad \alpha = \frac{k}{\rho c} = 2968.9$ s



$\tau_{LC} \cdot 2$: 66% complete

$\tau_{LC} \cdot 5$: 99% complete