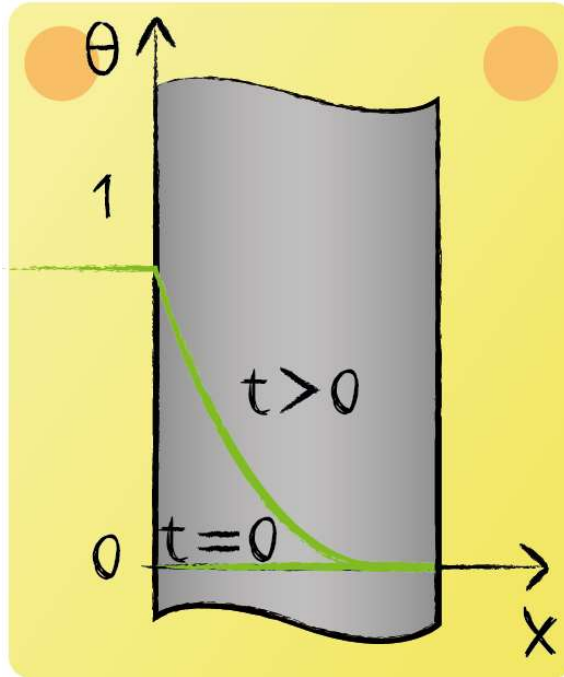


Lecture 16 - Question 2



Consider the following semi-infinite body where heat transfer on the outside is neglected. Which boundary conditions are applicable?

$$\left. \begin{array}{l} t > 0 \\ x \rightarrow \infty \end{array} \right\} T = T_0$$

States that the body temperature for $x \rightarrow \infty$ equals the initial body temperature. This can be seen from the fact that for $x \rightarrow \infty$, $\theta^* = \frac{T - T_0}{T_A - T_0} = 0$



$$\left. \begin{array}{l} t > 0 \\ x = 0 \end{array} \right\} T = T_A$$

States that the body temperature for $x = 0$ equals the ambient temperature. This can be seen from the fact that for $x = 0$, $\theta^* = \frac{T - T_0}{T_A - T_0} = 1$