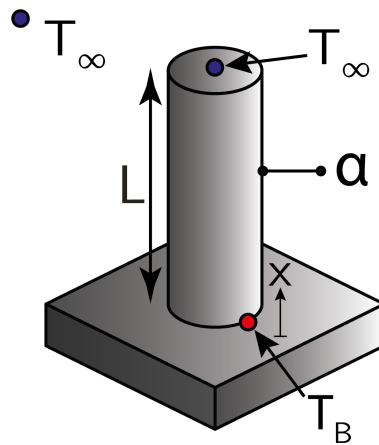


Fins - Boundary Conditions 4

Choose the right boundary condition at the tip $x = L$ for a fin, that has a tip temperature equal to the ambient, for solving the fin equation.



Given the fin equation:

$$\frac{\partial^2 \theta}{\partial x^2} - m^2 \theta = 0$$

Where:

$$\theta(x) = T(x) - T_\infty$$

The temperature at the tip is known $T(x = L) = T_\infty$, which yields in the following boundary condition that can be used for solving the fin equation:

$$\rightarrow \theta(x = L) = T_\infty - T_\infty = 0$$